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TECHNOLOGY AND HANDICAPPED PEOPLE

Working Paper #3

Sheltered Workshops

February 1983

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Preface

This volume contains papers written for OTA to assist in preparation of the report *Technology and Handicapped People*. OTA does not endorse these papers. In several instances, the OTA report reaches somewhat different conclusions because of additional information which was obtained later. These papers, however, may prove valuable for readers needing more detailed or specific information than could be accommodated in the final assessment report, and are being made available for such purposes.

SHELTERED WORKSHOPS

Jeffrey Rubin
Assistant Professor
Department of Economics
Rutgers University
New Brunswick, New Jersey

Working Paper #3

FOREWORD

Technology exerts a powerful influence over the lives of everyone, making life easier, more fulfilling, but sometimes more painful and frustrating. This is especially true for people with disabilities. The appropriate application of technologies to diminishing the limitations and extending the capabilities of disabled and handicapped persons is one of the prime social and economic goals of public policy.

The Federal Government is deeply involved in programs that affect the development and use of technologies for disabilities. Congress and other institutions have been increasingly interested in how well programs that directly develop technologies and support their use have been performing. The Senate Committee on Labor and Human Resources requested the Office of Technology Assessment (OTA) to conduct a study of technologies for handicapped individuals. That study examined specific factors that affect the research and development, evaluation, diffusion and marketing, delivery, use, and financing of technologies directly related to disabled people. The problems and processes of the development and use of technologies werre analyzed in the context of societal allocation of resources and the setting of goals for public policy. The main report of the study Technology and Handicapped People was released in May 1982.

This case is Working Paper #3 of the study. Working Paper #3 was authored by Jeffrey Rubin, Assistant Professor of Economics at Rutgers University. A number of case studies will be published as part of the assessment, and each will be issued separately. The case studies were commissioned by OTA both to provide information on specific technologies and to gain lessons that could be applied to the broader policy aspects of technology and disability.

Each author is responsible for the conclusions of specific case studies. These cases are not statements of official OTA position. OTA does not make recommendations or endorse particular technologies. These papers may prove valuable for readers needing more detailed or specific information than could be accommodated in the final assessment report and are being made available for such purposes.

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Jeffrey Rubin

Glossary of Acronyms

ARC - Association for Retarded Citizens
AMI - Available Motions Inventory
CETA - Comprehensive Education and Training Act
CIC - Center Industries Corporation
CPRFK - Cerebral Palsy Research Foundation of Kansas
DHEW - Department of Health, Education and Welfare
DOL - Department of Labor
ERT - Evaluation, Research and Training Unit
FLSA - Fair Labor Standards Act
JWOD - Javits-Wagner-O'Day
GAO - General Accounting Office
ICF/MR - Intermediate Care Facility/Mentally Retarded
NASA - National Aeronautic and Space Administration
NARF - National Association of Rehabilitation Facilities
NIB - National Industries for the Blind
NISH - National Industries for the Severely Handicapped
PARC - Pinellas Association for Retarded Children
PWI - Projects with Industry
RWP - Regular Work Program
RSA - Rehabilitation Services Administration
SBA - Small Business Administration
SSDI - Social Security Disability Insurance
SSI - Supplemental Security Income
TJTC - Targeted Jobs Tax Credit
TESPA - Training and Employment Services Policy Analysis
UCP - United Cerebral Palsy
WISE - Wages in Sheltered Employment
WHC - Weil Habilitation Center
WAC - Work Activities Center

SELECTED WORKSHOPS

1. INTRODUCTION

In surveys, nearly 50 percent of the adult population under 65 in the United States report the presence of a chronic condition (21). Of this group about 30 percent report being limited in the kind or amount of work they can do and are classified as "disabled." In 1972, a bit more than half of the 15 million disabled persons were not in the labor force at all, 29.6 percent were employed full-time, 13.2 percent were employed part-time and 4.6 percent were unemployed (looking for, but unable to find, work)(1). By 1978 the number of disabled adults had climbed to 21 million with about half being severely disabled (unable to work at all or regularly)(38).

Increasing the employment of persons with impairments has long been a part of American public policy (3). Distinct from macroeconomic policies to stimulate the economy and maintain adequate employment opportunities, a series of individual programs and initiatives have been enacted to improve the job market for the handicapped (36). Because employment policies affecting the handicapped are often incorporated into other programs for disadvantaged minorities, very little work has been done toward viewing all these programs in a single integrated framework.

In the first section of this report, we present a brief introduction to five categories of employment technologies. The rationale behind each effort is discussed and the distinguising characteristics of each technology are described. In the second section, we narrow the focus to one employment technology, the sheltered workshop. But as with all the individual technologies, the numerous variations leave the generic term devoid of much descriptive value. To clarify matters, we offer a typology of workshops, with an emphasis on the most significant differences in program design.

Recently, the workshop system has been the subject of much research and evaluation. In the third section, a brief review of each of these projects is presented. These reviews offer some useful insights into the types of criticisms and recommendations that have circulated in the last ten years.

The next segment of the report includes two case studies of sheltered workshops. Based on visits to the two facilities, the successful features of both programs and the problems they have encountered are described. The last section of the report includes a series of policy options. Consideration is given to both the placement and extended employment orientations found in different workshops.

2. AN OVERVIEW OF EMPLOYMENT TECHNOLOGIES FOR THE HANDICAPPED

For many handicapped persons, employment in the competitive labor market at a satisfactory wage cannot be achieved without some assistance. For others, the opportunities for competitive employment are nil and the alternatives few. Faced with these unfortunate facts, some questions readily come to mind. How does public policy cope with this dilemma? What are the alternative employment technologies and how well do they work?

Although physical technology, devices, and equipment are a part of the employment picture, the process of getting handicapped people trained, placed, and successful in employment goes far beyond machinery. An employment technology for the handicapped can involve a broad range of activities. For example, it could encompass social skill training, altering employer attitudes and knowledge, and devising mechanical corrective devices for the person or the job.

In reviewing the literature, five categories of employment technologies appeared most prevalent. The technologies include special industry programs, the use of financial inducements, legalistic efforts at job creation, rehabilitation and educational (human capital) programs, and sheltered workshops. In many cases actual public policies utilize a combination of several technologies. If one were so inclined, each combination of these five technologies could be considered a distinct technology. In our view the five program types discussed below constitute the fundamental building blocks of any employment policy for the handicapped. Therefore our attention will be restricted to these individual technologies.

Special Industry Programs

The employment of handicapped workers in the private sector requires not only a capable employee willing to work, but an employer willing to hire a handicapped job applicant. In recent years, a number of new private sector initiatives have been introduced to increase employer awareness about the potential of job applicants who happen to have physical or mental impairments. Examples of such programs include the Rehabilitation Services Administration's (RSA) Project with Industry (PWI) programs (32), a White House initiated program called Project Partnership (20), and the work of the AFL-CIO Human Resources Development Institute (15).

In each case, a special effort is made to get private firms to commit themselves to particular employment goals and to be directly involved in any preemployment training. Often training occurs at the job site rather then in a separate location such as a rehabilitation facility. Direct corporate involvement through membership on local advisory boards is also a feature of many programs. These boards can be important in helping rehabilitation personnel identify which occupations and skills are most in demand in local labor markets. In this way, employers are assured that future employees receive training tailored to specific job requirements. Clients can be matched with jobs where a particular functional limitation arising from a mental or physical impairment will not act as an impediment to employment.

Evidence on the PWI and labor union programs suggests these efforts have been quite successful. Although controlled studies and detailed benefit-cost

analyses are not available, both programs can document many private sector placements with workers earning above the minimum wage. These employees appear capable of remaining employed for an extended period of time. The next challenge is to expand these efforts to other parts of the country and to the most severely handicapped.

Financial Incentive Programs

In an economic system based on private market competition, the profitability of employing an individual or producing a product will always play a part in any employment or production decision. Direct and indirect subsidies can improve the financial picture for whatever activities are eligible for subsidization. The subsidies currently in existence and specifically designated for the handicapped can be considered a second employment technology.

Examples of financial incentive programs include the Targeted Jobs Tax Credit (TJTC), regulations that allow employers to apply for exemptions from minimum wage requirements and special loan programs under the Small Business Administration for small businesses fully owned and operated by handicapped people. By giving tax credits the TJTC reduces the cost to the employer of hiring an eligible handicapped worker (28). Allowing exemptions from minimum wage rules enables employers to hire someone whose productivity might initially be too low to justify employment at the minimum wage (42). Special loans help handicapped entrepreneurs start and operate a business that might not normally receive the support of for-profit financial institutions(36).

The three groups of handicapped workers eligible to benefit under the TJTC are Supplemental Security Income (SSI) recipients, referrals from State vocational rehabilitation agencies and persons referred to employers from Veterans Administration programs. A recent review of the program found that it had not worked as well as anticipated (28). But some caution should be used in reviewing the findings since the program has only been in operation since January 1979. One problem that will be remedied over time is use of TJTC retroactively rather than for new employees. On the other side, passage of time may indicate that once the two year credit is completed, the employer will release the employee and take on a new employee eligible for the higher initial credit. Efforts are underway to improve TJTC performance by getting eligible employees to "market" themselves with the credit and to coordinate the credit with other employment initiatives.

Legal Requirements

With the passage of the Rehabilitation Act of 1973 came a series of important breakthroughs affecting the rights of the handicapped. Though still being clarified through the regulatory and legal processes, the provisions of the Rehabilitation Act prohibited recipients of Federal financial assistance from discriminating against otherwise qualified handicapped individuals (36). The law also included provisions requiring the Federal government and contractors for the Federal government to take affirmative action in the employment of handicapped persons. Beyond the Federal legislation there are numerous State laws mandating nondiscrimination and affirmative action.

Assessment of the effectiveness of the entire legal approach cannot be completed until the courts better delineate the burden on the private sector.

In particular, questions still to be addressed include; what constitutes a reasonable accommodation, whether the legislation covers all phases of a recipient's operation or just those features receiving Federal financial assistance or a Federal contract, and the rights of an individual to bring a legal action under the legislation (11).

Regardless of how these matters are settled, it is already quite clear that we have entered a new era in terms of public and employer awareness about the handicapped. These legislative actions have spurred participation in the industry programs cited above. Private firms have also begun to establish special offices to improve their record in employing the handicapped (29).

Mention should be made about one other piece of legislation directly influencing employment of the handicapped. The Randolph-Sheppard Act creates opportunities for blind people to operate vending facilities on Federal property. Though probably not the long term solution to employment problems of the handicapped, this particular restriction of certain jobs to one group will probably continue to be a source of jobs for some handicapped people.

Rehabilitation and Education

Each of the previous employment technologies focused on finding ways to encourage employers to seek out and hire handicapped workers. We now turn our attention to efforts designed to improve the productivity and employability of the disabled. The basic Federal-State vocational rehabilitation program provides matching grants to States (80 percent Federal--20 percent State) to finance a wide range of rehabilitation services. Although other objectives exist, the program's primary function is to help clients achieve competitive employment. The program has been evaluated many times (24). The results, though subject to some criticism on methodological grounds, have shown that, for most groups, the economic benefits of rehabilitation exceed the costs.

A number of other rehabilitation and job training programs have also been available to improve employability. Special vocational rehabilitation programs for Social Security Disability Insurance (SSDI) beneficiaries, SSI recipients and veterans all have operated in the past (25). Under the Comprehensive Education and Training Act (CETA) program, additional opportunities were available to the handicapped. Under the Vocational Education Act, a minimum of ten percent of a State's allotment must go for services to the handicapped. Long term effects on employment eventually will be felt as States implement the requirement, established in the Education for the Handicapped Act (Public Law 94-142), that all handicapped children have an opportunity to receive a "free appropriate public education."

Sheltered Workshops

A fifth employment technology involves the use of a sheltered work environment as the setting to train handicapped people in employment related skills. Some workshops offer a variety of programs including training in job seeking skills, social skills and vocation-specific skills. Other facilities emphasize worker productivity. In these settings the only productivity enhancing activity the worker receives or performs is the work itself. Evidence suggests that experience on the job, especially in the early stages of employment, yields increases in productivity that are reflected in higher wages (19).

Although a case could be made to incorporate sheltered workshops under rehabilitation, we have decided to characterize these facilities as a separate employment technology. While it is true that for some clients, the workshop is the place where rehabilitation services are received, for others, it is simply a place of long-term employment. Moreover it is a special kind of rehabilitation built around the performance of a productive activity.

Clients referrred to workshops are evaluated, and if admission criteria are met, they will undergo a vocational evaluation before entering one or more of the workshop's programs. Work in a sheltered workshop may consist of either prime manufacturing, salvage of repairable items, subcontracting, or some combination of these three. Under the law, workers covered by the Fair Labor Standards Act (FLSA) can receive wages below the minimum wage. The FLSA requires that the wage a client receives be determined in accordance with a worker's productivity (42). After receiving training and other services, clients may find their productivity improved and an effort may be made to place them in a nonworkshop job. For others, the workshop can become a place of long-term employment, albeit in some cases, at wages above the minimum.

In recent years, an increasing proportion of the clientele workshops serve is severely disabled. When this trend combines with lack of work and, in some cases, a decision to emphasize social skills rather than employment services, the result can be rather low hourly wages. These wages, though formally allowed under the law, have sparked much critism of workshops. Some critics have suggested that workshops do not pay fair wages and are exploiting workers. Others claim workshops retain clients because they are needed as employees while it would be in the best interests of the individual to be placed in competitive employment. The diversity of workshop programs complicates any attempt to evaluate the claims. In the remainder of this report, we take a closer look at the workshop industry, with particular attention devoted to identifying features of successful programs and to devising policy options that would improve the performance of workshops as an employment technology.

3. A TYPOLOGY OF SHELTERED WORKSHOPS

An Overview of Workshop Types and Characteristics

There are approximately 4000 sheltered workshops, serving some 200,000 clients daily, operating in the United States (41). These facilities provide various forms of evaluation, training, employment, and other rehabilitation services to people with all types of disabling conditions. Perhaps the distinguishing feature of sheltered workshops is the extent of diversity in their approaches to different disabling conditions. Some workshops serve a very severely disabled population while others emphasize services for a less severely impaired population. Some facilities focus on employment while others emphasize social functioning. Given the rather disjointed development of the workshop system in the U.S. economy, it is not surprising to find such wide variation in the operations of these facilities. Consequently, a taxonomy of sheltered workshops is difficult to create. Beside differences in clientele served, workshops differ with respect to production-rehabilitation orientation, placement in competitive industry, which goods are produced, to whom they are sold, and the capital-labor mix used in production. A priori there is no reason to attempt to design a policy aimed at encouraging similarity. Each type of shop seems to be meeting a real need arising out of the varying consequences of impairments. What can be done is to reduce the differences in performance between shops with similar goals.

From our analysis we have identified five workshop models - each incorporating a different combination of attributes. There is necessarily some overlap among the differentiating criteria that tends to blur the distinctions. Nonetheless, the particular combination of factors qualifies each workshop type as a separate employment technology for the disabled.

The most prominent factor that differentiates workshops is the overall orientation and philosophy of the workshop administrators and Board of Directors. The decision to serve a particular group of disabled and whether to provide rehabilitation services, extended employment or some combination of both often determines the production decisions of the workshop. Previous studies have classified workshop orientation as either "turnstile" or "terminal" depending on whether the overall objective is maintenance in extended employment or movement into the competitive labor market (34). Often times the disabling condition of the client-employees will determine this orientation. Workshops for the blind were originally established to provide gainful employment for those blind persons for whom competitive employment was not thought to be a viable alternative. Workshops operated by an Association for Retarded Citizens (ARC) were established for similar reasons. Many workshops serving people with a wide range of disabilities are viewed as providing transitional employment for persons requiring some work adjustment training and other skills prior to placement in local industry.

Differences in philosophical approach are difficult to quantify. They often will determine those more readily identifiable factors that we are using as distinguishing characteristics. In effect these observable features serve as a proxy for the fundamental philosophical persuasion of the workshop directors. The criteria incorporated in our workshop typology include clientele served, placement services, production mix, customers, affiliations, degree of capitalization, accommodation to disability, wage levels and fringe benefits,

Table 1
Characteristics of Workshop Models

	Clientele	Placement Efforts	Production-Capital	Wages and Hours	Rehabilitation Services
Model I	Blind, some severly impaired	Minimal	Prime Manufacturing; Moderate to substantial level of capital equipment; Government contracts	Minimum Wage and above; full time work	None, other than on-the-job training
Model II	Higher functioning group various impairments	Minimal	Extended subcontract; Moderate level of capital equipment; links with private industry	Minimum wage and above; full time	None, other than on-the-job training
Model III	Severe physical impairment; extensive job site modification	Moderate	Extensive use of capital; private subcontract with capital support	Above minimum wage; full time	None at site bit re-employment services available
Model IV	Wide range of physical and mental impairments	Substantial	Refurbishing; some subcontract; little job specific capital	Most clients between one-half and full minimum; part time and full time	Some staff and wide range of services
Model V	Developmentally disabled/some mentally ill	Moderate	Intermittent subcontract; little capital; low work supply	Less than half the minimum; part-time	Extensive rehabilitation program; non-vocational services

and rehabilitation services provided. Table 1 provides a synopsis of the characteristics of each workshop model.

Model I

Model I is a workshop that emphasizes production, with a moderate level of job site modification, largely supported through government contracts. Most often these workshops are places of long term employment of blind persons at wages above the average for all workshops. Placement is generally not an important element and rehabilitation services are usually not offered in these facilities.

Typical of a Model I workshop is the operation having contracts with National Industries for the Blind (NIB). Many of these workshops were established prior to World War II. These workshops provided employment for blind persons via the manufacture of mops and brooms. Through organized lobbying efforts by various interest groups the Wagner-O'Day Act was passed in 1938. Wagner-O'Day required all government agencies to purchase certain commodities and services from qualified agencies for the blind. The legislation dictated the establishment of a central non-profit agency, NIB, to serve as a representative for the blind workshops as well as to allocate orders and provide technical assistance. Currently there are over 101 workshops affiliated with NIB and government sales revenue totalled 63.6 million dollars in 1979.

Seventy-five percent of the direct labor force in workshops performing government contracts through NIB must be legally blind. In general, the blind person, at these workshops, has received needed services (mobility and work adjustment training, etc.) from another organization or from a different part of the blind agency operating the workshop.

Many of the directors of NIB workshops perceive their mandate as being to provide long term employment, not rehabilitation, for blind workers. As a consequence, placement in competitive employment is not the overriding objective. The NIB workshop may encourage the blind worker to seek other employment but placement counselors are not usually on staff.

The NIB workshop is invariably engaged in the prime manufacture of a commodity for sale to some government agency. The staff is production oriented and administrators, as well as members of the Board of Directors, often have experience in private industry. Revenue is derived primarily from industrial output with contributions making up for any operating deficits. The workshops attempt to be financially self-sustaining.

The typical NIB-affiliated workshop has extensive capital equipment. Much of the equipment has been obtained through Federally funded grant programs. The availability of capital enables the workshop to make the production process highly automated. The laborers are either machine operators or perform tasks where the pace is determined by the machine. There may be some job site modification to accomodate for the low vision of most of the workers. For example the installation of dual controls to actuate a machine operation will guarantee that a person's hands are clear from any moving parts.

The combination of steady work and extensive capitalization play an important role in the relatively high-wages paid in Model I workshops. The average wage for NIB affiliated workshops was $3.24 an hour in 1979 (17).

Given the mandate to provide enough meaningful employment to enable the blind to support themselves, many NIB affiliated workshops also provide excellent fringe benefits to their employees. Medical insurance, liberal vacation policies and pension plans are commonly found in these organizations.

Of course these workshops cannot employ large numbers of the severely disabled population. Many of the developmentally disabled blind require extensive habilitation services which are not offered in these workshops. Others may not be able to meet the relatively stringent productivity criteria necessary to become an employee.

Model II

The most unique aspect of a Model II workshop is its similarity to modern for-profit private industry. The Board of Directors and management is comprised of businessmen and industrialists with little or no rehabilitation representation. The organization operates according to standard industrial practices employing disabled persons, at prevailing wages, to perform semi-skilled subcontract work with modern capital equipment. Some of these workshops are organized on a for-profit basis.

As a general rule, these facilities employ the mild or moderately physically disabled (e.g. persons with chronic musculoskeletal or cardiovascular conditions) as well as the higher functioning mentally retarded. The existence of a medically certified disability is often required for admission to the workshop. Thus all direct laborers as well as many supervisors are disabled to some extent.

The workshop philosophy is production oriented and strives to attain a work environment akin to any manufacturing operation. There is oftentimes a mix of transitional and permanent employees engaged in the production process. Many workers utilize the workshop as a stepping stone to employment in the local economy. As a consequence there is a high degree of employee turnover.

The Model II workshop engages in competitively bid subcontract work, usually involving specialized capital equipment and a semi-skilled labor content. Some of these workshops compete for contracts on a nationwide scale. Others have cultivated special relationships with corporations in the local economy. The Board of Directors is instrumental in obtaining the work through contacts developed in the business community. In such instances the workshop may benefit from the use of capital equipment consigned from the corporation and solesource bidding for the work to be done.

The work performed is specialized and fairly complex. The relationship with the 'parent' firm is ongoing so that the workshop can develop the proficiency and technological capability to produce efficiently, thereby enabling the workshop to offer a specialized production service on a larger scale. Examples of such work include electronics manufacture, wire harness assembly, and computer data entry.

The Model II workshop may employ engineers to examine the requirements of a particular job and may make adaptations that will improve the productivity of a disabled worker. Capital equipment in these workshops is usually utilized in combination with the labor rather than replacing it through automation. Faced

with the labor-capital dilemma, workshop administrators try to obtain work with sufficient labor content to emphasize the training component consistent with the workshop philosophy. Often, though, the type of work performed can be automated with a subsequent displacement of the disabled workers. The competition is likely to make the more efficient capital-labor adjustment with little regard for labor content.

The workshop will be affiliated with the local Chamber of Commerce and various manufacturing groups as opposed to rehabilitation organizations. The workshop has a self-sustaining financial philosophy and usually will not accept public contributions or other such "handouts". In keeping with this philosophy, the workshop pays the minimum wage or more to all employees. Fringe benefits are comparable to competitive industry. The disabled labor force is expected to work a standard 40 hour work week and abide by the same work rules of any other industry. The workshop establishes a productivity level that must be met before a worker will be hired. Hiring decisions may also be contingent on the successful completion of a probationary period. Productivity requirements and a decision to pay the minimum wage (i.e. not to seek a Department of Labor (DOL) certificate) means that only higher functioning disabled individuals will be employed.

These workshops do not function as rehabilitation centers. They cannot and do not try to provide rehabilitation services to their employees. Any necessary rehabilitation services are provided to the individual prior to referral to the workshop or at another facility on a fee for service basis.

Model III

A Model III workshop is characterized by extensive use of capital to adapt the job to the limitations of severely disabled clients. In other respects the Model III workshop operates much as a Model II facility. The prototype for Model III is Center Industries Corporation (CIC) in Wichita, Kansas.

This unique facility is based upon a concept introduced in Australia. Center Industries prefers to be referred to as a handicapped industry rather than a sheltered workshop. In a handicapped industry the direct labor force consists of both disabled and nondisabled employees integrated in an industrial environment. Center Industries would prefer a labor force that is approximately 60 percent disabled and 40 percent non-disabled but National Industries for the Severly Handicapped (NISH) contracts require 3/4 of the direct labor force to be disabled. Of the disabled, roughly half have severe cerebral palsy and the others have a variety of physical disabilities. Persons with mental deficiencies are not accepted as employees at Center Industries.

The Australian facility, known as Centre Industries, is operated as an extended employment workshop. The U.S. version considers itself to be a showcase for the capabiiities of a workforce that is severely handicapped. As such it is a facility for transitional employment. Since the CIC organization was only established in 1975 it is still too early to determine how successful they are in placing the disabled in competitive manufacturing jobs. Center Industries does not employ a placement counselor on the staff.

Similar to the other models Center Industries has a production-oriented Board of Directors consisting of industrialists, bankers, and businessmen. They

have been instrumental in obtaining lucrative long-term subcontract work for the corporation. Production consists of light manufacture of various steel products for local corporations as well as work performed under a State use law. The contracts provide steady work and the work is complex in nature. The level of industrial engineering is quite high and enables the organization to undertake sophisticated subcontract work. Center Industries eschews affiliation with rehabilitation agencies and belongs to industry associations and other organizations to bolster their image as a production oriented facility.

One of the truly unique aspects of Center Industries as an employment technology is the adaptation of capital equipment to improve the productivity of disabled workers. This process involves a comprehensive evaluation of a person's physical motions through an available motions inventory. Once a person's capabilities are measured, an industrial engineer designs an appropriate modification to an existing piece of equipment utilized in the production process. When a person achieves 70 percent of standard industrial norms that person can then be assimilated into the Center Industries workforce.

Most of the production processes are automated and the physical labor performed is likely to be machine operation or quality control. The workers must meet specific productivity standards prior to being given employee status. Hiring and firing decisions are based on criteria similar to private industry. Wages to disabled workers are approximately $4 per hour and standard fringe benefits are provided. The organization also provides workers with transportation and living quarters should a person desire them.

Although rehabilitation services are not provided at the industrial plant, the organization operates a rehabilitation center that serves as an evaluation and training ground for disabled persons. Successful completion of the job readiness program and an appropriate position opening will usually lead to employment within the Center Industries complex.

Model IV

The fourth employment technology found among workshops can be termed a comprehensive rehabilitation facility serving clients with a variety of impairments. Typical of Model IV workshops is the usual Goodwill facility. Also covered under this category are other facilities not part of the Goodwill system.

There are about 150 Goodwill workshops nationwide, each operated as an autonomous unit loosely coordinated by a national office. The Goodwill concept was originated around the turn of the century as a workshop for the physically disabled. Its main task was to recycle clothing for use by the poor. Goodwill facilities continue to operate as recycling centers. Contributed items are refurbished and later sold in Goodwill outlet stores. With the onset of World War II, many Goodwills evolved into comprehensive rehabilitation facilities offering evaluation and work adjustment training in addition to extended sheltered employment. It is this more current and extensive formulation that has been classified as Model IV. For this reason many non-Goodwill shops would meet our criteria, even though they would tend to rely on subcontracts rather than the recycling of donated goods.

The movement to comprehensive rehabilitation facilities has changed the orientation of many Goodwills. Executive directors may have rehabilitation backgrounds and the Board of Directors consists of people in the social service as well as business community. The Goodwills are affiliated with national and State rehabilitation organizations in addition to Goodwill Industries of America.

Goodwill Industries has developed the reputation as the "employer of last resort." In addition to hiring the physically disabled, they provide employment to the aged, ex-offenders, substance abusers and "socially handicapped." In recent years, with the impetus spawned by the deinstitutionalization of the mentally ill and mentally retarded, Goodwills have increased services to these groups.

With the variety of client-employees being served it would be impossible to characterize the philosophy of a Goodwill as either placement oriented or extended employment. In general, Goodwill Industries provides a combination of both. Many people utilize the Goodwill as a transitional employment source to obtain the work adjustment training and skills necessary for competitive employment. Goodwills may have placement counselors to assist these people in their job search (on a fee-for-service basis). For other people competitive employment is not feasible; the Goodwill serves as a permanent employment center for them paying wages commensurate to their productivity.

As previously noted, Goodwills have engaged in the refurbishing and sale of contributed goods as their primary source of production revenue. Many Goodwills have expanded into industrial subcontract work as another source of production revenue. Those operating as comprehensive rehabilitation agencies receive fee for service revenue from State agencies. The Goodwills rely on public contributions from sources such as United Way to cover any operating deficits they may incur.

The Goodwills have small to moderate amounts of capital equipment for the production process. Job site modification and adaptive devices are not utilized extensively. The work performed is labor intensive with virtually no automation. Skills are taught in such diverse areas as drycleaning, furniture restoration, and appliance repair. The Goodwill cafeteria and retail stores also provide training in service sector jobs that are often in demand in the business community.

The wages paid to client-employees depend on the productivity and skills of the individual person. Most Goodwills are certified to pay sub-minimum wages. The wages range from approximately $2.00 to $3.50 per hour. Many of the persons in extended employment receive fringe benefits commensurate with their production capabilities. There is usually not the stringent productivity criteria that exist in the first three workshop models.

The Goodwills offer a range of rehabilitation services depending on the orientation of the particualr facility. In addition to evaluation, training and placement some offer speech, physical and occupation therapy.

Model V

The final type of workshop is a rehabilitation oriented facility serving primarily the developmentally disabled. While persons with other conditions are served, usually 75 percent to 100 percent of the clients are mildly to severely mentally retarded. Some of the clients may have recently been released from institutions. Many in this population have no employment background and require extensive habilitation services.

The workshop philosophy stresses competitive job placement or at least a movement of clients from a work activities center to a regular workshop program. For many clients the workshop serves as a place of terminal employment. Most rehabilitation centers employ a placement counselor. The typical job placement is in a service sector job such as food service or janitorial. Job placement in light manufacturing jobs is infrequent.

The administrative staff is usually rehabilitation oriented. The executive director must coordinate rehabilitation services, transportation and living arrangements in addition to the production activities of the workshop. The Board of Directors will often consist of parents of clients as well as private citizens and persons from the social service field. The agency is affiliated with other rehabilitation facilities on a State and national level. Given these priorities and organization, industrial experience is in short supply.

These facilities rely heavily on fee-for-service income and government support for their operating revenue. The production revenue in the workshop typically accounts for less than 50 percent of overall agency income.

Production revenue is invariably earned from performing short duration subcontract work for local businesses. Because the workshop must bid extremely low to obtain work for clients, their subcontracts are not lucrative. Short duration subcontracting usually entails extremely simple tasks requiring only unskilled labor and no equipment. The jobs are structured to emphasize the use of labor. This may be due to the need to keep many workers busy to meet the work requirements of the service-purchasing agency, the lack of skills in the workforce, or the lack of appropriate capital equipment for the job. These workshops utilize jigs and fixtures to increase productivity but lack the wherewithal and expertise to do extensive job site modification. What little capital equipment there is remains underutilized because of the lack of steady reliable work.

The direct labor force is comprised totally of disabled workers. There are almost no productivity requirements for admission to the facility. Persons are not terminated for lack of production or inappropriate behavior.

Many of the clients in such facilities are in Work Activities Centers (WAC) where by definition the workers must be capable only of "inconsequential productivity." These WACs are exempted from paying minimum wages but must pay commensurate wages for any work performed. Wages usually range from $.50 to $1.60 per hour. The workweek is only 20 to 30 hours with the remainder of the time spent in "programming." Fringe benefits are minimal. Many of the clients receive Supplemental Security Income (SSI), Medicaid and other forms of public assistance.

As should be evident, production in a sheltered workshop is only one segment of the rehabilitation agency. The agency provides evaluation, personal and work adjustment training, activities in daily living, extended employment, counseling, remedial education, speech, physical and occupational therapy, and job placement and vocational rehabilitation services. The rehabilitation agency will often also provide recreation, medical services, transportation and community living arrangements for clients.

4. A REVIEW OF SHELTERED WORKSHOP EVALUATIONS

During the past ten years a series of government sponsored studies have been conducted to assess various aspects of the sheltered workshop industry (5, 12, 30, 37, 39, 43). The analyses and recommendations contained in these reports constitute an important source of knowledge on workshop and client behavior as well as on the impact and effectiveness of government policies. Since two case studies of individual workshops cannot adequately bring to light all the employment issues, a brief review of several of the most significant studies is presented.

Each summary follows a similar pattern. There is a brief introduction describing the origin of the study and the research organization assigned to conduct the study. Each sponsoring agency generally had a very specific interest in one or more features of workshops. For example one study was oriented toward analyzing wage levels in workshops while another focused on an explanation of placement patterns. The second portion of each review describes the study methodology. Several projects involved visits to a sample of workshops. Some other studies relied on the judgment and opinions of expert panels. The third section summarizes major findings contained in each report. The final segment of the reviews covers the employment related policy recommendations contained in each report.

Review of "Wages in Sheltered Employment (WISE) Research Project"

The WISE project was funded by the Minimum Wage Study Commmission, a congressionally-appointed committee established by the Fair Labor Standards Act (FLSA) of 1977. The Commission's mandate was to examine the FLSA and analyze the social, political and economic ramifications of the implementation of minimum wage legislation. One of its twelve study areas was an examination of the economic effects of exempting certain employers of disabled individuals from some of the minimum wage provisions of the Act. Monroe Berkowitz of Rutgers University was commissioned to do the study.

The principal objective of the WISE study was to explain the underlying causes for the differences in wage payment practices between workshops certified to pay disabled workers subminimum wages and workshops paying a minimum wage or more to disabled employees (5).

The methodology called for the matching of a certificated workshop paying subminimum wages with a noncertificated workshop paying at least minimum wages. The workshops were to be similar, whenever possible, in regard to location, disability group served, and size of shop. A total of 12 matched pairs were studied. A synopsis of the matched pairs is given in one of the report's chapters.

The major factors explaining the variation in wage payment practices were found to be capital-labor ratios, value added per worker, the type of work performed, workshop funding sources, admission and retention criteria, and the rehabilitation services offered. In addition to a certificated-noncertificated breakdown, the study also examined workshops according to disability group served, i.e., blind, developmentally disabled or general disabilities.

The capital-labor ratio was almost six times higher in noncertificated

workshops than in certificated workshops. Workshops for the blind had over ten times the capital per worker that a workshop for the developmentally disabled (DD) did. Workshops for persons with general disabilities had almost five times the amount of capital per worker than in the DD workshops. To the extent that greater amounts of capital equipment, in combination with a fixed labor supply, result in greater worker productivity, higher wages will usually ensue. Shops with higher capital/labor ratios also were likely to have a continuous, reliable source of work.

Production value added per worker was another significant factor affecting the level of wages paid to disabled workers. Defined as the difference between total production revenue and material costs, production value added per worker will strongly influence the wage level in a workshop. The value added figure must cover not only direct labor wages but fringe benefits, supervisory personnel, physical overhead, and governance and administrative costs as well. The value added per direct laborer was over five times greater in noncertificated workshops than in certificated workshops. The value added per direct laborer in both workshops for the blind and for persons with general disabilities was roughly ten times the amount found in workshops for the developmentally disabled.

The type of work performed as well as the various funding sources also had some bearing on the wage payment practices of the matched workshops. High wage paying workshops were invariably involved in prime manufacturing or a long term subcontract requiring some degree of capitalization. The prime manufacturing work was procured through the Javits-Wagner-O'Day set-aside provisions. Long term subcontract work was usually obtained under special arrangements with the contracting corporation and oftentimes the workshop was the sole source bidder for the work.

The work performed by the certificated workshops was in sharp contrast to the patterns found in noncertificated facilities. Although many certificated workshops for the blind and persons with general disabilities were engaged in prime manufacturing and long term subcontract work, the certificated rehabilitation facility for the developmentally disabled was typically involved in competitively bid shortterm subcontract work. Over 80 percent of the noncertificated workshop revenue came from prime manufacturing and long term subcontract work. In comparison, roughly one fourth of certificated workshop revenue was generated via shortterm subcontract work. Over 40 percent came from the provision of rehabilitation services in the form of fees, grants and other public support.

The workshop employment and hiring policies had a major impact on the productivity of the labor force and consequently on wage levels. Most of the noncertificated workshops had a minimum productivity criterion that had to be met before a disabled person would be hired. Many noncertificated workshops required successful performance during a probationary period prior to extending employee status to a disabled person. The certificated workshops rarely established productive norms as an admission criterion. The "client" status of many of these disabled people demonstrates the fact that they are viewed by the workshop administrators, particularly in workshops for the developmentally disabled, as recipients of services rather than as production employees.

The final factor having some bearing on the wage payment practices of the workshop was the extent of rehabilitation services provided by a facility. The noncertificated workshops offered little in the way of services beyond training and the experience gained from fulltime employment. The certificated workshops provided a full range of services from evaluation, personal and work adjustment training and placement services, to physical, occupational and speech therapy. In addition the rehabilitation facility often provided transportation, recreation and community living arrangements. All of these services are provided on a fee basis and reflect the orientation of the certificated workshop toward service provision.

The major findings of the WISE project related to wages, worker productivity and the availability of rehabilitation services. The production orientation of the workshop, the managerial capacity, and the capital equipment used in the production process all had a significant bearing on productivity and wage levels. The severity of a worker's impairment had a negative impact on productivity and therefore admission criteria will have an important influence on wage levels. The continuous work and liberal pricing policy provided in National Industries for the Blind (NIB) contracts led to higher wage levels.

While clients in certificated workshops were earning lower wages, these people were receiving work adjustment training and social adjustment skills not provided in the noncertificated workshops. Direct comparison via wage payment practices overlooks the benefits a client receives from a service provided by a rehabilitation agency.

The WISE study made several recommendations concerning productivity, wages and employment. One recommendation suggested that the existing disability transfer payments be redesigned to reduce the disincentives to work. Improvements in productivity would result if workshops had a steady source of work, more and better capital equipment and greater numbers of nondisabled persons in the direct labor force. Tax incentives and credits to private industry were suggested as means to encourage better working relationships with sheltered workshops. It was recommended that the procurement priority given to blind workshops over workshops for other severely handicapped be eliminated and methods to improve the productive efficiency of State operated workshops be implemented.

Review of "Training and Employment Services for Handicapped Individuals in Sheltered Workshops"

This study was initiated to develop policy prescriptions to remedy the perceived shortcomings in the provision of training and employment services to disabled people in sheltered workshops (37). Previous Department of Health, Education, and Welfare (DHEW) and Department of Labor (DOL) workshop studies helped to identify many areas of concern to those interested in the workshop system. These studies, however, did not attempt to recommend methods to implement the changes that were needed. In response to increased concern on the part of both the public and Congress, the Office of Social Services Policy in DHEW undertook a comprehensive examination of the problems in the provision of training and employment services. The study participants were to pay particular attention to the needs of severely mentally impaired persons in comprehensive rehabilitation facilites. The overall purpose was to examine all the feasible methods for improving training, employment and placement services in sheltered workshops and to formulate a strategy for implementing recommended policy or legislative charges.

The report includes a review of the recent national studies of workshops, with an eye towards the development of a framework to assess the major issues affecting workshops. Five problems prevalent in many workshops were identified. 1) There was a low placement rate for disabled persons from a workshop to competitive employment. 2) The client-employee status of a disabled person in many rehabilitation facilities tended to depress wage rates to unacceptably low levels. 3) The FLSA minimum wage exemption regulations created major problems in wage payment practices and were seen as impediments to higher wages, particularly in work activities centers. In addition, disincentives to earn higher wages discouraged many disabled people from seeking more renumerative employment. 4) There was very little coordination of services between the various funding sources, which, with insufficient funding, led to deficiencies in workshop performance. 5) The contact between sheltered workshops and private sector business was quite limited. As a result many clients were poorly prepared for employment.

Having identified the important policy issues, the project staff attempted to determine if people "in the field" of rehabilitation had the same perceptions. They solicited opinions from over 220 people representing purchaser, provider, and consumer groups in a series of one day seminars in six States. The varying responses were analyzed, and from these comments a series of policy papers was formulated. These papers elaborated upon the policy problems and identified potential solutions as well as possible ways to implement these proposals. A total of seven policy papers were drafted, five of which pertained to sheltered workshops as an employment technology.

The first policy paper covered the issue of how to maximize employment potential. The emphasis was on the variety of persons served in sheltered workshops. For some people the workshop serves as a short-duration transitional rehabilitation program. During this time the person is viewed as a client receiving rehabilitation services. After completion of the program the person may be placed in employment in the competitive labor market. Other disabled people may require rehabilitation services beyond evaluation and training. While a person may be engaged in commodity or service production and thus viewed as an employee, the need for continued supportive services also may classify the person as a client. Still other disabled people make the transition from client to employee but will remain in the workshop for an extended period with little prospect of competitive employment.

The dual status of client and employee causes many problems in workshops. A person may be viewed as a client in a workshop which emphasizes the provision of services at the expense of a higher wage. Another workshop may stress a production orientation while neglecting competitive job placement. One recommendation in the report was that national policy emphasize competitive placement as the raison d'etre for sheltered workshops. In addition, this policy would require greater participation of private business in developing all phases of employment opportunities for the severely disabled.

One method to implement these recommendations included developing research and demonstration projects. Also suggested was the establishment of a consistent policy for State vocational rehabilitation agencies concerning referral and closures to sheltered workshops.

The second policy paper dealt with funding for both operational and capital

development financing. Since funding availability ultimately determines the level of services provided to clients, financing of workshops is of major importance. The basic problem encountered by workshops is that they must rely upon a multiplicity of private and public sources for funds. Funding tends to be sporadic and unreliable. These sources require different costsharing provisions and cost allowances as well as separate accounting and reporting requirements. Another problem has been that State vocational rehabilitation agencies cut back funding as the workshops served an increasing number of severely disabled clients with little employment potential.

Workshops also encounter tremendous obstacles in the struggle to obtain adequate capital. Some of the difficulty is caused by the nonprofit status of the workshop which precludes them from obtaining financing via normal channels. A reduction in vocational rehabilitation agency investment programs for workshops has also caused capital funding to dwindle.

The policy recommendations included formulating annual funding agreements between State agencies and private workshops providing cost reimbursements for services delivered in the facility. A need for greater stabilization of the various funding sources as well as coordination of the funding was suggested. Increased funding of the Small Business Association (SBA) Handicapped Assistance Loan Program was also recommended. Another suggestion involved assisting the private sector to disseminate capital development techniques that have met with success.

The third section covered the issue of wage levels of disabled people in sheltered employment. Serious problems with the wage determination process as mandated by the FLSA were cited. The inability to properly determine a commensurate wage and the inadequacy of DOL compliance investigations were two reasons cited for wage abuses. The shortcomings of the regulations concerning work activities centers were also mentioned as reasons for problems associated with setting wages. The emphasis in the World Activities Center (WAC) definition on therapy, the segregation of the WAC from the regular work programs and the productivity limitations have led to further difficulties in the payment of wages.

To resolve some of these difficulties the establishment of a single subminimum wage certificate for workshops was recommended. One result of this action would be to eliminate the productivity restrictions existing under current regulations. Improved DOL compliance investigations would also help in assuring that the disabled receive commensurate wages.

A study of disincentives found that many disabled workers' restricted hours worked to limit earnings below the substantial gainful activity (SGA) income level. As a result workers could remain eligible for certain transfer payments, medical care and social services. Legislation to treat workshop income differently, extend the trial work period, and allow the deduction of impairmentrelated expenses from income was recommended. Some of these suggestions became law under legislation passed late in 1980 (35).

The final study examined issues of work supply and technology in sheltered workshops. The lack of suitable work for disabled people in sheltered workshops has been a chronic problem. The lack of diversified work, limited worker productivity and capitalization and insufficient management expertise are common

in many workshops. The work supply could be increased through expanded use of the Javits-Wagner-O'Day and State set-aside programs and greater participation in private sector markets. One means to augment the industrialization of sheltered workshops that was recommended was to establish a comprehensive network of technical assistance programs. Such programs as NIB, National Industries for the Severlly Handicapped (NISH) and Network (a National Association for Rehabilitation Facilities (NARF) marketing program (9)) could be expanded, and the SBA could also develop a technical assistance program for sheltered workshops.

Review of the "Job Placement Study"

The Job Placement Study, funded by NISH and prepared by Leonard Perlman, had as its major objective an examination of those factors having some bearing on the ability of sheltered workshops to place disabled workers in the competitive labor market (30). The findings could then be utilized by other workshops to improve their job placement programs.

Data were collected from a survey of 87 NISH participating workshops. Using these results, statistical tests were applied to identify those variables correlated with successful job placement. Factors such as staffing, placement services offered, community size, workshop sales volume and composition of the Board of Directors were among the many variables studied.

The survey instrument was developed after reviewing the literature and consulting with vocational rehabilitation experts about factors related to job placement in the competitive labor market. The 87 workshops in the sample were selected because each had items on the NISH Procurement List during fiscal year 1977.

Usable responses from 82 workshops were examined according to placement rates. The workshops were then assigned to either a "high placement group" or a "low placement group" according to an arbitrary placement rate determined from the DOL workshop study. Statistical analyses, involving chi-square and multiple regression techniques, were used to test whether particular variables were significant in explaining variations in placement rates. Overall, the job placement rate for the 82 workshops was just over 15 percent, with low placement workshops averaging 8 percent and high placement workshops 22 percent. These rates were comparable to those found in the Greenleigh and DOL studies.

A number of factors were not significantly different between the two placement groups. One such characteristic was the utilization of an evaluation prior to entry into the workshop. There was no statistical difference between the high and low placement workshops concerning the methods used for evaluation, or whether or not the evaluation was done at the workshop. The workshop groups also did not differ according to whether or not an individual written rehabilitation program was prepared.

Several factors relating to the local community were found not to significantly differ between high and low placement workshops. The size of the local community, the area unemployment rate, the type of major local industry and the availability of transportation from residential areas to industrial worksites did not differ between the workshop groupings.

Some factors related to operation of the workshop were found not to differ between the two workshop types. For example, the workshop sales income from government contracts was not significantly different between low and high placement workshops. Another statistically insignificant variable was the total client capacity of the workshop. There was no statistical evidence to suggest that having disabled persons employed in a supervisory capacity affected the workshop placement rate.

The NISH placement study found numerous factors that did serve to differentiate the low and high placement workshops. For example, the greater number of "job-ready" clients, the higher the probability that a client may be placed. Unfortunately, the criteria for determining the job-readiness of a client were not examined.

One significant finding was that workshops with a Board of Directors with a business/industry majority were more likely to be in the high placement group. A workshop having an executive director with a social/rehabilitation background was also more likely to be associated with the high placement group. In contrast, workshops having an executive director with business/industry backgrounds were found in low placement workshops. The combination of a business-oriented Board and an executive director with a rehabilitation background was highly correlated with workshops having a high placement rate.

Production aspects of the workshops were found to differentiate facilities with high and low placement rates. Workshops with low placement rates had lower annual workshop sales than their high placement counterparts. The low placement workshops also experienced more frequent disruptions in the production process. In addition, these workshops paid lower hourly wages than workshops in the high placement group. The greatest difference between the high and low placement shops vis-a-vis wages was in the "over $2.50 per hour" group. Over 80 percent of these workshops were in the high placement group.

Workshop staffing and placement personnel also distinguished high and low placement workshops. The workshops grouped in the high placement category tended to have a larger professional staff and were more likely to employ a full time placement counselor than the low placement group. The high placement workshop group reviewed their placement plans more often. Low placement workshops were more likely to have no formal review system.

Other variables in which differences between the workshop groups were observed were referral source and programs offered. In general, workshops with a low number of State vocational rehabilitation referrals were associated with workshops having a low placement rate. These workshops also offered different programs to their clients. Significantly more low placement workshops offered activities of daily living than did high placement workshops. In general, the former workshops provided rehabilitation services that were more therapeutically oriented.

After reviewing the findings of the study, a panel of sheltered workshop experts made several suggestions concerning the report. One recommendation was that terms such as "dropout" be clarified. Low placement workshops had higher "dropout rates." More analysis of this figure is needed since some clients may have left on their own to enter the job market. More emphasis should be placed on how workshop clients got jobs, the type of work acquired, and client

characteristics. For example, the client's disabling condition and its impact on job placement received no mention in the study. Further study should also be done on the type of work performed and on the type and quality of evaluations done at the workshop. Also more information on the role of the Board of Directors might shed some light on how they affect job placement.

Review of the "Sheltered Workshop Study"

The Department of Labor's Sheltered Workshop Study, prepared in 1973, was based on an analysis of a survey undertaken by the DOL's Employment Standards Administration. Volume I, the subject of this review, focused on the operation of sheltered workshops in providing employment and training services to disabled workers (39). A second volume examined disabled client characteristics (41).

The Sheltered Workshop Study was funded by the Employment and Training Administration to evaluate the potential of sheltered workshops to provide services to nondisabled people who are socially disadvantaged. Other major objectives were: 1) to examine wage levels and fringe benefits provided to disabled client-employees; 2) to evaluate the consequences of keeping work activities center clients separated from regular program clients; and 3) to determine the need for programs and services to improve the placement of clients into competitive employment.

After tracing the development of the workshop movement, the Federal regulations pertaining to workshops and the provision of wages, and a cursory examination of previous workshop studies, the findings from the survey are discussed. The inital section is an analysis of the characteristics of workshops and clients receiving services. Other sections pertain to the financial operations of the workshops, the wage payments and fringe benefits provided to the disabled workers, the training and placement services provided to clients, and the staffing and professional services available in workshops.

Perhaps one of the major contributions of the Sheltered Workshop Study was the capsulization of the sheltered workshop universe. The DOL study reported on the operations of 1,786 workshops in which there were 2,530 different programs (regular work programs (RWP), work activities centers (WAC), and evaluation and training programs). Roughly one-half of the programs were WACs and one-third were RWPs. The workshop system had an average daily attendance of 98,000 client-employees, averaging 55 per workshop. The total client population had grown by more than 2 1/2 times since 1967.

The DOL study classified workshop programs according to primary disability group served. Fifty percent were classified as mentally retarded programs, and one-third were classified as general programs. The remaining programs served such diverse groups as the blind, the mentally ill and alcoholics.

There was a significant change in the composition of the client population over the period from 1968 to 1973. In 1973 over 60 percent of the clients were enrolled in WACs compared with only 36 percent in 1968. Explanations for the increase include the growth of the deinstitutionalization movement and the expanding availability of funding for social services and extended care.

The study found that workshops, in general, had significant excess capacity and this underutilization had unfortunate consequences for those receiving services. For example some shops found it economically impractical to provide

comprehensive services. Other workshops had to limit the size of their subcontract work.

The DOL study reported extensively on the financial operations of the sheltered workshops. Approximately three-fourths of RWP income and less than one-third of WAC operating income came from production work. Moreover, WAC work income amounted to only 10 percent of that earned in RWP's. Subsidy income accounted for a large portion of the support needed to operate a WAC.

Workshops for the blind had the highest income from the work program and the lowest fee for service income per clients. Workshops for the mentally retarded had the lowest work income and were the most dependent on subsidies.

Work program income was obtained from industrial subcontracting, prime manufacturing, service work, and salvage and refurbishing. Industrial subcontracting (typically bench assembly, packaging, and collating) was the most prevalent; more than two-thirds of all clients were engaged in this form of work.

Workshops for the blind emphasized manufacturing, usually in the form of machine sewn items, mops, brooms and brushes.

The DOL study noted that income earned from the work program was used to pay expenses related to production while fee for service income covered rehabilitation related expenses. Roughly three-fourths of the workshops reported operating losses. Subsidy income was often utilized to cover deficits incurred in the operation of a rehabilitation program.

Substantial differences were observed in the capitalization of the workshops classified according to primary disability group served. Capital investment for plant and equipment in workshops for the blind and for people with general disabilities was approximately five times the amount for the mentally retarded and mentally ill. The type of work performed obviously had some bearing on this disparity - i.e., manufacturing and reprocessing versus subcontracting.

Finally, perhaps the most important finding related to financial concerns was that the operating budget in many workshops was insufficient, particularly in the case of mentally retarded clients, to offer the necessary programs.

The next section of the DOL study dealt with wage payments to disabled persons in sheltered workshops. Overall, average hourly wages increased by about 10 percent in the five year period from 1968-1973. The actual type of work performed, the size of the workshop and the client disability, in varying degrees, all had some impact on wage earnings. For example, the fact that persons doing bench work in WAC's average only one-third the wage of persons performing this work in RWPs may been attributable to lower skill levels.

The DOL study reported a significant variation in both the hourly earnings and hours worked across workshops categorized according to primary disability group served. This variation was consistent with the financial information reported - with the blind workers averaging a bit more than workers in workshops for persons with general disabilities, and two or three times as much per hour as the workers in shops serving the mentally retarded and mentally ill. More

than three-fourths of the NIB and Goodwill affiliated workshops had average annual client earnings over $3,000.

Clients employed in workshops less than one year had higher earnings than those clients with at least five years tenure. The DOL researchers noted that this was not surprising given the tendency to place the better workers in competitive employment after a short work adjustment period.

The DOL researchers also investigated the prevalence of fringe benefits provided to disabled employees in sheltered workshops. The majority of the disabled workers were not receiving those benefits normally provided with employment in the competitive sector. The provision of these benefits hinged on an individual's client-employee status. For example, workshops for the blind invariably had an employer-employee relationship with the blind worker. These workshops were four times as likely to provide fringe benefits as workshops for the mentally retarded, where the disabled person was perceived as a client receiving vocational services.

The next section of the DOL report covered client training and placement services in sheltered workshops. Most facilities offered some training, educational and/or therapeutic services. Expenditure reports showed that spending for professional and technical staff salaries was a relatively small portion of the budget. Most of the workshops indicated that the kind of vocational training provided depended on the type of work performed. Janitorial, building maintenance and food service were the most prevalent form of work in the WAC. The RWPs provided training in machine operation and general clerical work.

Usually, one of the most important tasks of a workshop is placement of a client in employment in the competitive labor market. The overall placement rate was 12 percent for sheltered workshops. Not surprisingly, the lowest placement rate, 7 percent, was in work activities centers. Mentally retarded people in RWP's had the highest placement rate (15 percent) when grouped according to disability. As a group the blind had a placement rate of only 5-7 percent. NIB affiliated workshops placed 4 percent of their clients. Low placement rates are partly explained by the orientation of these workshops toward extended employment. Goodwill-affiliated workshops, which stress transitional employment, had an 11 percent placement rate.

The length of tenure in a sheltered workshop was shown to have a significant bearing on successful placement. Roughly three-fourths of those placed from RWP's had been in the workshop less than a year. Most of the WAC clients placed had less than two years tenure in such a program.

Review of "The Role of the Sheltered Workshops in the Rehabilitation of the Severely Handicapped"

The Role of the Sheltered Workshops in the Rehabilitation of the Severely Handicapped was a three volume report of a study perfomed in 1975 by Greenleigh Associates (12). The report, henceforth referred to as the Greenleigh Study, was condensed into a single volume for a later printing. In addition to assessing the effectiveness of the workshop system in providing rehabilitation and employment services to the disabled, the study also examined wage payment practices in workshops.

The objective of the study was to evaluate the management and employment practices of the workshop system as they related to the rehabilitation and employment of the severely disabled. Particular attention was directed to identifying those factors that contributed to successful rehabilitation. The study also included an analysis of the alternative roles that the workshops serve and the innovations incorporated in the provision of training and employment services.

The study design of the Greenleigh report was complex. The first part of the analysis consisted of a literature review with a concentration on the organization of sheltered workshops, the training and employment services provided, and the disabled persons in need of such services. Various survey instruments were then constructed to obtain the data required for the analysis. Data were collected for both sheltered workshops as organizational entities and on characteristics of disabled client-employees in workshops. The workshop organization survey instrument concentrated on financial, production, and staffing information as well as services provided and utilization levels. The client information included demographic characteristics, the nature of the disability, wage information, the types of services a client had received and the length of tenure in a workshop. In addition survey instruments were prepared for questioning various community organizations and State vocational rehabilitation agencies concerning their involvement with sheltered workshops.

The sampling procedure involved separating the workshops according to the major disability type served and the size of the workshop (measured by client average daily attendance). After a workshop had been classified according to these criteria it would be assigned to a specific stratification cell. Workshops for the study sample were then randomly selected from each of the cells. A total of 400 workshops were sampled, and 2,140 disabled client employees were interviewed.

While the Greenleigh Report questioned the actual size of the workshop universe as reported by the DOL, there was agreement on the growth of the workshops serving the mentally retarded. The study noted that roughly four-fifths of all clients were mentally retarded or mentally ill to some extent. While the client data showed that over 70 percent of the clients sampled expected to be placed in competitive employment, the limited education and work history made the prospect for competitive employment remote for most clients. This was evidenced by an overall placement rate of 10 percent and the fact that the average length of client tenure in a workshop was just over two years.

The workshop staffing patterns further demonstrated the influence of the mentally disabled population on the workshop organization. The staffs of these workshops generally reflected a rehabilitation rather than a production orientation. These workshops were much more likely to have an executive director with a rehabilitation background than workshops for the blind. Workshops serving the mentally disabled also had a higher percentage of staff with professional degrees and some rehabilitation experience.

Not surprisingly, the Greenleigh Study found that client wages varied according to type of workshop and client disability. Workshops for the blind paid the highest median hourly wage followed by general disabilities workshops and then the workshops for the mentally disabled.

Wages varied according to the overall production orientation of the workshop. For example workshops for the blind received more business income per client than workshops in the other categories. In general, workshops that depended on production income for a high percentage of their operating income paid higher wage rates.

Workshops for the blind usually had a sole objective of providing extended employment for the blind workers. In most cases evaluation and prevocational training was provided prior to entering the workshop. The concentration on production, particularly prime manufacturing, accounts for the business success and higher wage rates in these workshops. Approximately two-thirds of the local industries for whom workshops performed most of their contract work reported high satisfaction with the quality of the work. Representatives of local organized labor also viewed the workshops performing subcontract work for local industry favorably, provided they did not threaten union jobs. In general, sheltered workshops were not viewed as competing with organized labor. The workshops performed menial labor requiring no skill. This type of work was perceived to be undesirable by unions and nondisabled workers.

The State vocational rehabilitation agencies were in general agreement that workshops should be utilized as evaluation, work adjustment and work training centers. For some workers with severe impairments the workshop must take on the role of terminal employer. Few agencies felt that job placement was an important function of workshops. Many felt that while workshops were successful in evaluation and training of disabled persons, they were unsuccessful in placing workers in competitive employment.

The Greenleigh Report concluded that there was some confusion concerning the role of sheltered workshops in the rehabilitation of the severely disabled. The workshops perform three different functions: 1) reducing the severity of the impairment of the disabled through the provision of rehabilitation services, 2) providing work adjustment training to enable client placement in the competitive job market and 3) providing extended employment for those clients for whom competitive employment was not feasible. In some workshops disabled workers earned low wages because a workshop concentrated on the total rehabilitation process. In other shops, workers who might be capable of competitive employment may not be placed because the productivity requirements of the work do not enable the workshop to provide the necessary rehabilitation services.

The Greenleigh Report recommended that workshops should clearly define their roles as organizations. Specifically, production and rehabilitation functions should be separated. Once a shop's capabilities are identified it should work in conjunction with other community agencies to assure that the disabled person receives a comprehensive set of services. The Greenleigh Report also recommended that the low levels of client earnings be augmented through income supplements or through efforts to raise worker productivity. Specific programs to improve the business performance of workshops should be initiated by the Rehabilitation Services Administration (RSA). These assistance programs range from contract procurement and new product development to providing engineering, quality control and marketing assistance. While NIB and NISH models have led to improved business performance for some workshops these models do not apply to the majority of workshops. The Greenleigh Report also suggested eliminating the many work disincentives that existed under the various income maintenance programs.

Since the Greenleigh Report envisioned an increase in the numbers of severely disabled requiring a sheltered setting, they recommended a diversification in the type of work performed in the typical workshop. Specifically suggestions included expansion of prime manufacturing under Javits-Wagner-O'Day and the formation of industrial enclaves in private manufacturing facilities.

Finally, it was noted that the overriding objective of workshops should be to integrate the severely disabled into the private business sector. Implementation of affirmative action programs and better links between the workshop and the business community were offered as potential devices to achieve this objective.

5. SHELTERED WORKSHOP CASE STUDIES

In an effort to understand the significant features of successful workshops, a site visit was made to a network of facilities operated by the Pinellas Association for Retarded Children (PARC Center). Another visit, conducted as part of an earlier study of wages in sheltered workshops (5), provided extensive information on Center Industries Corporation. In the following pages, we make a detailed report on both operations. As explained earlier, there is such a variety of facilities and handicapped persons that it is impossible to represent all possible combinations in the case studies. Yet, the two reports, describing successful programs with severely disabled clienteles, confirm many of the general principles and findings reported in the survey of recent evaluation research.

These two cases certify the potential for employment success that resides in handicapped people. Traditional criticisms directed at the failure of workshops to achieve a better record of placement or at the inadequacy of extended employment programs are still relevant. But the use of technology in job modification, the availability of capital to improve worker productivity, innovative public sector support, and a production orientation which capitalizes on individual skills can create a successful program. In the two case studies, we document how these elements of a workshop system have been effectively implemented.

Center Industries Corporation

Origin

Center Industries Corporation (CIC) opened in 1975 as the employment arm of the Cerebral Palsy Research Foundation of Kansas (CPRFK), an organization with its roots in United Cerebral Palsy (UCP) of Kansas. One of the UCP's founding members had noticed that most programs for the disabled provided assistance only up to the time a person reached working age. An obvious gap existed in the provision of vocational rehabilitation services.

A study of various employment technologies for the disabled was conducted. One concept that was examined was Centre Industries in Sydney, Australia. In this program, severely disabled persons were employed side by side with nondisabled persons in a "handicapped industry setting." With equipment modification and extensive capitalization, disabled people were engaged in light manufacturing work in a normal industrial environment.

Following a site visit to the Australia facility, CPRFK was established in 1972. With the assistance of the College of Engineering at Wichita State University, CPRFK studied the feasibility of employing severely disabled persons through the utilization of engineering techniques. With funding of $300,000 for 1972 through 1975, the Foundation designed test equipment and commenced equipment modification. In addition, the engineers devised the available motions inventory (AMI), a testing system used to evaluate the physical abilities of disabled individuals.

The Foundation's original intent was to place severely disabled persons in competitive employment in Wichita industry through the efforts of a council with representation from the business community, Chamber of Commerce, and other interested organizations. This program achieved only moderate success. It

became apparent that a pilot industry was required to demonstrate engineering capabilities as well as providing viable employment opportunities to persons with cerebral palsy.

In 1973, the Kansas legislature provided $85,000 in "seed" money to establish a "handicapped industry" concept. Grants from Vocational Rehabilitation and a loan from the Small Business Administration (SBA), totalling more than $1,000,000, were utilized for staffing, building, and equipment purcahses. Center Industries commenced operations in June of 1975 with 45 employees, 30 of whom were disabled. The Evaluation, Research, and Training Unit (ERT) was also opened at this time.

In July of 1976, CPRFK was named a national rehabilitation engineering center. Part of the plan included establishing a relationship with the Wichita State University College of Engineering to provide engineering expertise on a daily basis. The Rehabilitation Services Administration (RSA) gave a $2.5 million, 5 year grant to establish the rehabilitation engineering center (REC). While the RSA funds 15 such RECs on a nationwide basis, CPRFK is the only REC with such an extensive vocational (as opposed to medical) orientation.

Functions

Center Industries' approach of modifying equipment to adapt the requirements of a job to the abilities of a disabled peron is unique among RECs. There are other aspects of Center Industries that make it exemplary in the employment of the disabled.

The ERT unit incorporates the available motions inventory and engineering modifications with traditional training techniques to develop the working skills and speed required in competitive industry. Once this productive norm has been attained, the person is given assistance in finding employment in local industry or at Center Industries. Many of the job stations at CIC have been fitted with adaptive devices to enable the disabled operator to attain standard industrial norms.

The REC's function is to provide the engineering necessary for the Foundation's residential, evaluation, and employment components -- from barrier free living in the residential facility to modification of capital equipment at Center Industries.

CPRFK was established to address the many problems faced by working age people with severe disabilities in their striving for an independent lifestyle. In addition to the evaluation and training requisite for a meaningful employment opportunity, there is often a need for housing and transportation. The Foundation offers programs in both areas. For example, the innovative residential program, called Timbers, provides independent living facilities for about 100 disabled people, many of whom are employed at Center Industries.

The Foundation also provides transportation for the disabled. They operate two large vans and a bus which were acquired through Federal grants. These vehicles are equipped with wheelchairs lifts and are available on a fee for service basis to residents at the Timbers and employees at Center Industries.

Operations

Before examining some of the exemplary practices used by CIC in employing severely disabled people, a brief overview of the operations of Center Industries is in order. CIC is a manufacturing plant designed to perform a variety of subcontract work for local industry as well as to be a prime manufacturer of metal products. At the time of the site visit, CIC engaged in the manufacturer of license plates for the State of Kansas, performed a sophisticated airplane window cleaning and inspection operation for a major aircraft corporation and made a combination riveter-punch tool for a local firm. CIC also manufactured a strut for the rear window of recreational vehicles and was just starting to make lawn furniture.

One of the major reasons for the financial success of CIC has been the ability of management to procure favorable contracting agreements. For example, the license plate manufacture was negotiated as a labor only contract on a cost-plus basis with the State of Kansas. CIC also acquired all of the tooling and equipment on a $1.00 per year lease basis. In 1980 this contract accounted for over $500,000 in revenue. The airplane window and rivet tool lines were also negotiated on a cost-plus basis and accounted for approximately $350,000 each in annual revenue. The only work performed on a "competitive" basis was the strut line for which CIC received $400,000 in revenue. The lawn furniture line was created to take up the slack that was left when revenue from the strut line started to decline.

Eighty-four persons are employed at CIC. There are 38 disabled people employed, 34 of whom are production workers. The average hourly wage for disabled workers is approximately $3.50, which is three-quarters of the average hourly rate paid to nondisabled employees.

The capital equipment utilized in the production process was valued at $900,000. When divided by the number of production workers, it was estimated that there was approximately $14,750 in equipment per job site.

Factors in Program Success

The combination of extensive capitalization and longstanding contracts provides the foundation for viable and well paying extended employment of the severely disabled. However, there are many innovations in practice at Center Industries which allow it to overcome the pitfalls that beset most sheltered workshops in the United States economy. Many of these innovations were transplanted from workshops in Europe and the Australian Centre Industries concept.

Henry Redkey (33) has noted the importance of several factors critical to successful workshop operation. For example, management of the workshop should be left to industrialists, not rehabilitation workers. There must be an adequate supply of capital and the necessary engineering expertise available. Competitive wages made possible by the increased productivity provided by extensive capitalization and good management should be paid to disabled employees. Shops must be operated in a manner similar to competitive industry, making only those accomodations that are necessary for the disabled. The workshop should be used as extended employmnt for some, but for other workers it must be a setting which offers training for future employment elsewhere. There

must be a minimum productivity level below which a person simply cannot remain employed. CIC has done an excellent job in adhering to these principles.

One of the most significant aspects of the CIC employment philosophy is the business orientation of the board of directors. The Board consists of prominent businessmen, financiers, and lawyers from the Wichita area. There are no handicapped persons on the Board. Center Industries has always maintained ties with the Chamber of Commerce and other business organizations and eschewed affiliation with rehabilitation agencies. While technically a nonprofit organization, Center Industries does not want to project this image. Some firms do not like to do business with nonprofit organizations because of the alleged difficulty in suing for faulty service. Another example of the employment orientation is evident in the Board's recent decision to remove the ERT from its location in CIC. They felt that the rehabilitation process detracted from the business environment and was therefore detrimental to contract procurement.

During the site visit the general manager of CIC maintained that the Board was the key to the overall success of the organization. They have been instrumental in procuring favorable contracts and the necessary financial support. For example, one of the Board members was influential in changing the State law, causing Center Industries to receive the licence plate contract.

Another case in point was the procurement of the airplane window cleaning contract. An initial contact with an airplane manufacturer led to the suggestion that Center Industries could start out by sorting floor scraps. The practice of accepting menial tasks in hopes of garnering better work at a future date, euphemistically referred to as "taking the bitter pill before the sweet," has been commonplace in the workshop industry. Unfortunately, these tasks are often fatal to the fiscal health of the organization, as the good contracts are rarely forthcoming. The CIC board would have no part of this. They requested work that was appropriate to the abilities of their job shop and assured the company that their price would be below the cost of doing the job in-house. Consequently, the firm decided to allow CIC to take over the window cleaning and inspection process, something that required CIC to make an initial capital outlay of over $125,000. Needless to say, a commitment of this magnitude helps assure that the workshop will have steady meaningful work.

Another factor in the successful employment of severely physically disabled persons at CIC is the expertise of the staff. As Redkey noted, rehabilitation workers are woefully unprepared in the administration of a workshop. CIC has deliberately separated rehabilitation from its industrial facility. All management personnel at CIC are experienced in some aspect of business administration. The general manager, director of operations, director of marketing and purchasing, and quality control director all have accounting, business, or engineering expertise and have held similar positions prior to working at CIC. Even the titles of the staff members demonstrate their business orientation -- general managers and production foremen versus executive directors and rehabilitation supervisors at the traditional rehabilitation facility. Of course, such expertise is not acquired cheaply. CIC had extensive RSA funding grants to enable them to employ personnel from industry. CIC also had a full-time industrial engineer on staff plus the services of industrial engineers from Wichita State University. These engineers provided the equivalent of 1 1/2 full-time positions.

Another unique contribution to the success of CIC is the ERT unit. In addition to the traditional battery of evaluation tools, the ERT incorporates a visual-perception screening, a language evaluation, and a physical therapy evaluation to identify any impediments to gainful employment. During the evaluation stage, the AMI is given to each client. The test measures those motions available to an individual during the performance of standardized industrial tasks. After taking an "inventory" of a person's physical capabilities, one option is to identify a job that requires such movements. Alternatively, rehabilitation engineers may design electrical or mechanical adaptive devices to compensate for the deficiency in the physical motions of a client. The engineers also determine which job stations are most conducive to increasing a client's work skills, quality control, and speed to a competitive norm. After a person has satisfactorily completed these sections of the evaluation, an on the job evaluation at CIC may be arranged or the individual may be placed elsewhere. For someone to be hired at CIC, he must consistently produce at 70 percent or more of the nondisabled, productive norm established for each task.

It should be stressed that once a person is ready for employment, Center Industries is but one possible placement. The ERT maintains a placement service that has close contact with many private employers in the Wichita area. The philosophy at CPRFK is that CIC should not be permanent employment, but rather provide meaningful training in an integrated, normal work environment.

One factor that contributes to the viability of CIC as a productive enterprise is the rather stringent criteria for admission into the ERT program. All candidates must be of "near normal intelligence" and not suffering from severe emotional problems. A candidate must also demonstrate the "endurance potential to respond to the demands of an eight-hour day." These requirements effectively limit eligible candidates to those with impairments of a physical nature which can be remediated with rehabilitation engineering. Persons with emotional or mental disabilities are referred to other facilities in the area. Linkages with the Elks Training Center in Wichita guarantee that there is no gap in services for the mentally retarded and mentally ill not served by CPRFK.

The screening mechanism is merely one facet in the explanation of the high-productivity levels at CIC. Another essential ingredient in achieving improved productivity is adequate capital and maintenance expertise for up to date machinery. CIC has benefitted from extensive capital grants as well as from favorable leasing arrangements in obtaining their production equipment.

The handicapped industry concept has also had some impact. While technically a nonprofit organization, CIC operates like any other regular private business in regard to profit seeking. For example, CIC does not have a Department of Labor certificate that would allow them to pay subminimum wages. The Center Industries philosophy is that payment of at least the minimum wage serves as a strong incentive to improve the productivity of the disabled work force. While a conventional sheltered workshop may provide valuable rehabilitation services, they have been woefully inadequate in paying a "living wage," perhaps due to a lack of incentives to improve productivity.

Another feature in a "handicapped industry" is that disabled and nondisabled employees work side by side in the production process. This is in

marked contrast to the typical American workshop where all production workers are disabled. While the Australian Centre Industries concept operates with only 30 percent of the labor force disabled, CIC maintains a 75/25 ratio of disabled to nondisabled production workers as required under the Javits-Wagner-O'Day and Small Business Administration programs. In this environment, only absolutely essential accomodations are made for the disabled employee. Inappropriate behavior is not tolerated as it might be in a typical workshop.

The integrated employment concept serves to improve productivity in the following ways. First, a job is set up in the most efficient manner using nondisabled laborers. The job is then performed with this manning for a period of time sufficient to determine whether or not it is a profitable venture. At this point, engineering adaptions may be made to the existing machinery so that the disabled person may perform efficiently at one of the job stations.

Another advantage is that the productivity of nondisabled workers can be used as a standard by which to measure the output of the disabled worker. Thus, not only are realistic and competitive production norms established, but they serve as a stimulus to the disabled worker. If a worker cannot maintain 70 percent of the industrial norm, then this person is reassigned for more work adjustment training. By implementing this minimum productivity level, CIC is able to survive as a commercial operation.

The combination of a production orientation, adequate capital with adaptive equipment, a normal industrial environment with nondisabled production workers and provision of essential support services on an as-needed basis has been instrumental in the successful employment of a severely physically disabled population at CIC.

PARC Center

Origin

PARC Center, located in St. Petersburg, Florida, began in the early 1950s with the formation of the Pinellas Association for Retarded Children. The first work of this organization involved assisting the local school system to establish and operate a special class for moderately retarded children. The use of volunteers and the coordination of several community agencies that characterized these initial effort is still in evidence today.

Through the 1960's many of PARC's activities were related to educational programs. In the late 1960s a sheltered workshop was established, and in 1972 a 10,000 square foot building was built to house the Weil Habilitation Center (WHC). Private donations and an initial staffing and construction grant from the Rehabilitation Services Administration (RSA) were the primary sources of support. In 1974 a second RSA grant helped build a 7,800 square foot addition to WHC.

Other expansions in the 1970s included the construction of a housing facility, PARC Villa, in 1970. A second housing complex, PARC Center Apartments, was constructed in 1979. It is licensed and certified as an Intermediate Care Facility for the Mentally Retarded (ICF/MR). PARC's philosophy in establishing these, and other less restrictive, community housing arrangements is that clients should be near services and be able to gradually make the transition to total independence in the community.

In 1976 a second resale shop, operated by volunteers and providing a major source of revenue, was opened. Also, a 10,000 square foot warehouse was donated for use by PARC. During the past ten years a gardening and nursery program was begun and expanded. A large inventory of plants and a landscaping service have been recently broadened with the leasing and operation of 17 acres of city owned land. These facilities are a source of income for PARC and offer many opportunities for client employment.

Plans are currently being developed to enable PARC to serve 500 children and adults by 1990. A third RSA expansion grant for $134,275 will help construct and staff a new sheltered workshop. In addition one million dollars was raised through private fund raising efforts. Another important addition will expand the resale shop so that vocational training in upholstery repair and wood working can become part of PARC. Finally a new 30 bed two story residence is also planned.

Functions

PARC Center carries out numerous activities beside offering vocational services. Educational programs, developmental activities, and training in daily living skills are all provided by PARC. This is most certainly a multi-service agency of which the workshop activities are just one part. The entire workshop income for fiscal 1981 was $923,496 or 24 percent of PARC's budget. Of the total workshop income $133,000 was derived from the sale of products and contract work. Most of the other revenue came from fees for services paid for by various agencies. Typical of these arrangements is payment under Title XX Social Services for developmental training and payment by the Florida Office of Vocational Rehabilitation for work evaluation and work adjustment. An additional $246,000 in income came from the horticulture program.

Clients referred to PARC receive a vocational evaluation in which job samples are used to determine an individual's abilities and trainability. The program takes seven weeks during which a client is observed in the workshop. At the end of the evaluation, a report is completed and clients with work potential are referred for a 16 week session of work adjustment training. Clients are offered training in a number of areas including use of local transportation, job seeking skills, personal hygiene, work habits, and supervisor-client interaction.

Once a client completes the work adjustment training several options are available. Some clients are judged ready for placement in competitive employment. Others are recommended for PARC's work activity program or regular sheltered work program. Unfortunately a lack of work in the workshop results in many clients being placed on a waiting list.

During the past year 83 persons received work evaluation and adjustment training. Fifteen of the 83 clients achieved competitive employment. Sixteen clients returned to school. These people received services during the summer and may enter PARC's facilities following the school year. Fifteen clients were on a waiting list for a spot in the workshop, while sixteen people were placed in the workshop and five people were placed in the nursery. The remaining clients either quit the program, were unemployed, or were referred to another program.

Other employment related functions carried out at PARC Center include job development, placement, and follow-up. A full time staff person is charged with placement responsibility. This individual maintains contacts with local employers, offers small groups of job ready clients special employment training, and is available to work with clients and employers should problems arise after an individual is placed. Although this last activity has been successful for some employers, others are too slow or reluctant to make use of PARC's follow-up services.

One important feature of the entire job development program is the need to link transportation and housing. Most of PARC's clients will have to rely on public transportation. Oftentimes jobs simply are not located nearby and job and transportation schedules do not mesh. Also if the job requires irregular hours or periodic changes in location, some clients are unable to adjust their use of public transportation.

Mention should also be made about use of such public policy encouragements as tax credits and affirmative action and nondiscrimination laws. The staff at PARC has found the availability of tax credits a valuable inducement in its placement activities, although not all employers participate. Legal advocacy has not been a part of the employment philosophy at PARC. Many of the small business firms in the St. Petersburg area do not have the required government contracts obligating them to affirmative action and nondiscrimination.

Operations

PARC Center operates a variety of production models including subcontract work such as packaging and assembly, prime manufacturing of landscape curbing and ceramic pieces, and wholesale and retail nursery operations. There is also a program in food service.

In its attempt to attract business, PARC emphasizes its production and inventory control procedures. They also point out that small firms or newly created businesses can use PARC's services and avoid making large initial investments in plant, equipment and personnel.

As is true with most shops relying on subcontracting, PARC does not have enough work. During the site visit a major firm was shut down for the week and there was no work for most clients. The prime manufacturing segment has built up its inventory of landscape curbing and was waiting for new orders. The local economy simply does not generate enough work, partly because of its heavy emphasis on tourism, which largely creates employment in service jobs. Competition from other workshops and decline of National Aeronautic and Space Administration's (NASA) space program both have hurt PARC Center's employment picture. The management recognized the need to be creative in finding employment opportunities and was planning to hire a full time procurement specialist.

Perhaps the most significant feature of PARC Center's vocational programs is its garden shop and nursery. Currently 24 people are employed in these operations. Through a special arrangement with the city, PARC is now fully operating 17 acres of city land on which trees and shrubs are grown and sold both wholesale and retail. There are some 20 competitors in the county and about 100 landscape contractors. Standard pricing policies are followed and a normal business atmosphere is maintained.

It was estimated that in the coming year gross revenues from just the 17 acre facility will total $300,000. It is also possible purchases by the city will add to this total. One estimate as to client progress was that 6 of the 17 clients working in this facility had the potential for competitive employment. No special accomodations were necessary and behavior problems were minimal.

An important addition for future work opportunities will be a refurbishing operation linked to the resale shop. PARC Center plans to have clients do upholstery work and repair of small appliances.

Factors in Program Success

Success at PARC Center must be defined not only in regard to placement in competitive employment but also in achieving successful transition to extended employment, development of social skills and improved capacity to live in some less restrictive setting in the community.

As indicated earlier, 15 persons were placed in competitive employment. Given that there are 45 clients in regular work programs [kitchen (8), nursery, including all locations (24) and landscape curbing (13)] and 160 in the work activities center, the 15 placements represents a reasonably good record. If jobs were available several more workers could be employed immediately and if demand for landscape curbing picked up it would be possible to improve production and increase wages. As of late 1980 wages in the regular work program typically were between $1.00 and $2.80 while in the work activities center workers generally earned less than $1.00 per hour.

Competitive employment is difficult for many clients. It was estimated that 65 percent of the work activities center clients had reached a production plateau. Reasons for their limited productive ability included physical capability, lack of stamina, parental efforts to "protect" their children, and the client's age.

Another reason placements are difficult is the potential loss of Supplemental Security Income (SSI) and Medicaid eligibility. Health benefits may not be part of the benefit package on a new job, especially if the initial employment is as a temporary. If SSI benefits are lost due to earnings the client may face a lengthy reapplication process if he cannot hold the job. Since much of the service work is linked to seasonal peaks corresponding with an influx of tourists, clients who have been successfully placed do lose jobs.

Loss of jobs occurred for several of the 15 competitive placements. Reasons include the usual layoffs as well as clients failing to meet production standards or problems in social skills. A special problem occurs in some food service operations where the pace and pressure can be intense. Clients find such pressure difficult to handle.

Placement will become more and more difficult in the future. (This is one reason why PARC Center is looking to expand its own internal ability to generate work.) Most of the highly functioning clients have been skimmed off the top. As deinstitutionalization progresses the population will become more severe and competitive employment less and less feasible.

Another problem, particulary acute at PARC Center, is the presence of an older clientele with little experience beyond their own family. When individuals with retarded offspring retire to Florida, they may get referred to PARC. Unless they have received services elsewhere, it will be difficult to achieve competititve placement. Parents also are concerned about giving up SSI, a guaranteed income source, for the uncertainty of labor market income.

The opinion was expressed that employment effectiveness could be increased if the staff had more leeway in allocating resources. As it now stands receipt of funds from different agencies is tied to the provision of specific services even if not indicated. Furthermore, an enormous paperwork burden is attached to participation in these programs. While recognizing the need to guarantee wise use of public funds, PARC staff felt the restrictions to be overly specific, leaving little room for professional discretion. In general, there was a desire to redirect funds away from the more severely retarded to those clients who, with proper training and assistance, are more likely to succeed in employment.

One solution to employment problems PARC chose not to pursue was special agreements under State use laws or National Industries, for the Severely Handicapped. In some instances it was clear that PARCs clients would not be able to meet the quality and quantity standards. In other instances there was a good deal of uncertainty regarding the long term security of such contracts. The workshop felt it could not afford the risk associated with purchasing the necessary capital equipment.

The efforts of PARC as both a place of extended employment and in placement and follow-up were praised in separate interviews with a parent and local employer. In the former case a brain damaged 26 year old male with aphasia and partial paralysis worked propagating new plants in the nursery. This was a 7 hour a day, 5 day a week job for which the individual generally earned about $30 a week. The individual's mother was quite pleased with her son's success. She attributed much of her son's progress to the dedication of the staff. She also indicated that the dollar amount of wages was not as important as simply receiving some wages. Overprotectiveness on the part of many parents she knew seemed to be one reason similar persons are held back.

The employer representative was a personnel dirctcr of a local department store. Three clients had been successfully placed there over the years (several had failed). Two were employed in the restaurant and one was in a warehouse. A key element to successful placement was the individual's first line supervisor. Problems here would spell doom for the client. These views were echoed recently by a representative of AT&T (10). Other important elements in the success of placements were the willingness of the employer to make an extra effort to keep the individual employed and the availability of PARC's follow-up services.

Regarding the extended employment activities at PARC it was clear that a lack of work reduced client productivity and wages. Also the intermingling of production and rehabilitation detracts from the emphasis on employment. Plans for a separate sheltered workshop indicate that there is a need to distinguish rehabilitation from work. Although competitive employment may not be feasible, higher productivity is. Procurement of sufficient work, more capacity and capital equipment, and an overall concentration on production should improve the wage and employment picture. Attainment of these goals will be constrained by

the extent to which the local economy remains sluggish, by the low number of manufacturing facilities in operation, and by the increasing presence of more severely disabled persons in the workshop.

POLICY OPTIONS

Constraints to Improving Performance

In considering possible actions to improve the effectiveness of sheltered workshops as an employment technology for the handicapped, it is important to distinguish placement related policies from policies affecting extended employment. Different workshops and clients choose to emphasize different objectives. It seems impossible to try to establish rules that would allow identification of the optimal plan for each person. Instead we have opted to offer several policy changes which, if implemented, would improve the effectiveness of workshops either as a transitional placement oriented facility or as a long term source of employment for the handicapped.

While the proposed policies should serve to improve performance, at this time it is not feasible to assess their specific costs nor the magnitude of the consequences. Client, workshop, and employer reactions to alterations in the incentive structure are reasonably predictable as regards direction of effects. However under the different economic circumstances that exist throughout areas of the country there will be varying patterns of response. For example, encouraging more use of workshops as a subcontractor will be less effective when the local economy is not oriented toward production or when the local economy is stagnant. Another example involves client reactions to changes in Supplemental Security Income (SSI) designed to reduce work disincentives. Not all long term clients out of competitive employment face disincentives. Some people may simply be unable to work due to the severity of their conditions.

The discussion highlights some of the constraints facing policymakers and workshops in improving the employment picture for the handicapped. Correcting these "problems" often lies outside the realm of employment policies for the handicapped. Specific problems include limitations in worker skills, trainability and mobility, the State and character of the local economy, the efficiency-jobs tradeoff typically characterizing automation of the production process, parental overprotectiveness, and the real monetary and benefit losses a client faces when earnings increase.

The population of handicapped people is heterogenous. Education, skill training, and innovative use of technology are several ways to overcome or replace deficits caused by some conditions. In other cases a worker's stamina may not be sufficient to allow full time work or his mental capability may be insufficient for even the simpliest of tasks. The unavailability of private or public transportation can also be a barrier to competitive employment. Many workshops can obtain funds to finance transportation services for clients in the workshop but these funds may not be available to assist persons once they leave the facility for employment in a nonworkshop job.

Another constraint can be the local economy. Oftentimes workshops are in competition for work with other providers of low skill labor including other workshops. In cases where demand is weak or subject to seasonal fluctuations opportunities for either placement or extended employment will be limited. All the inducements one could devise will not replace an expanding economy with the corresponding growth in demand for products and consequently labor. While workshops can minimize the impact of a declining economy by securing long term

contracts or engaging in the production of some recessionpro of product, most facilities feel the impact of what is going on around them.

One means to improve worker productivity is to increase the amount of available capital. Automating simple repetitive tasks can reduce costs and keep the workshop competitive. But it is the nature of automation that in the process jobs will be lost. Beside the financial risk associated with purchasing capital equipment, workshops face the dilemma of employing more workers at lower wages or employing fewer workers but at higher wages. There is no resolution to the problem but to recognize that administrators and boards will have to establish their priorities and act accordingly.

Moving to a job in competitive employment sometimes involves more than a client and employer. Parents of the developmentally disabled appreciate the long term security of the workshop. The potential loss of cash and medical benefits also worries parents who might face a substantial increase in support expenses.

The loss of income that occurs when an individual no longer qualifies for public assistance represents a real cost of increasing earnings. Until recently the problem was further complicated by the awareness of clients that should their income fall, establishing eligibility through reapplication would be a lengthy, time consuming, and uncertain process. Since many placements fail, often due to seasonal aspects of employment or use of a last hired first fired rule, clients often choose not to take the risk associated with accepting a higher paying job.

In the face of these constraints, there is still an opportunity to improve performance both in achieving placement in competitive employment and in increasing hours worked and productivity in extended employment. The options we propose operate on both the supply and demand sides of the labor market. Consider policies that increase the productivity of the worker and/or his willingness to work. Faced with a more productive worker, a firm would be willing to pay a higher wage for his services. With firms offering a higher wage, a worker is likely to increase the quantity of labor he will supply. Changing the worker's willingness to work implies that at any given market wage the worker will increase his supply of labor.

Along with changing a worker's ability, there are other means to change employer demands for handicapped employees. Improving a workshop's efficiency will mean a worker will be more productive. At any given wage, firms will increase employment if workers become more productive. Alternatively, subsidizing a worker's wage will lower the cost to the firm thereby leading to an increase in the demand for labor. Some specific policies, affecting both demand and supply, are presented for consideration below. The options are distinguished as to whether they are primarily oriented toward placement or extended employment. We recognize that the distinction is somewhat arbitrary and the dividing line a bit nebulous. For example, policies designed to increase productivity of workers in extended employment may have the side effect of enabling some workers to achieve a successful transition to competitive employment.

Placement-Related Options

In much of the work done in employment and rehabilitation of the handicapped there is sufficient documentation to indicate that cash and in kind benefits create disincentives to employment (35). This point was reitereated in the site visits to workshops. In recognition of this finding a series of changes were recently implemented by Congress (35).

First, SSI was altered to allow for the automatic and immediate reinstatement of benefits for those people who, because of increased earnings, have had their benefits terminated. A worker whose earnings fall below the required level at any time during the fifteen month period following termination of benefits will automatically be reeligible for benefits. This may turn out to be a very important change for workshop clients. It is in the nature of workshops that client earnings can fluctuate as work becomes available. Also some conditions, for example mental illness, may be in remission or under control for a period of time but a pattern of intermittent periods of work is to be expected.

The new legislation also authorized demonstration projects to test the effectiveness of allowing Medicaid and social service benefits to continue after cash benefits have been terminated. For those handicapped workers with conditions requiring periodic medical attention, the potential for high medical bills makes work, if health insurance is not an immediate fringe benefit, a risky option.

It is too early to tell whether these changes will work. The existence of other barriers to employment may still limit placements in competitive employment. Furthermore if many SSI recipients take advantage of these changes, program costs might rise significantly. This could be followed by an effort to change the rules once again. If this occurs one possibility would be to limit the automatic reentitlement to cash benefits and continuation of noncash benefits to persons in workshops or people in competitive employment who recently received services in a workshop. By targeting the effort to eliminate disincentives on this more narrowly defined group, savings could be achieved without impairing workshop performance.

Employers surely view handicapped workers, especially those with little prior work experience, with great uncertainty regarding job performance. Although firms receiving public funds are under legal obligations (still being more precisely defined in the courts) to take affirmative action and not to discriminate in the employment of the handicapped, a monetary "carrot" can be an effective inducement. Furthermore, a large number of firms are not covered by Sections 503 and 504 of the Rehabilitation Act of 1973 as amended. It is also true that the expensive and time consuming nature of legal actions under these statutes make them an unwieldy policy tool.

One form of monetary inducment covering specific target groups of workers hired after September 26, 1978 is the Targeted Jobs Tax Credit (TJTC) (28). The tax credit is set at 50 percent of an individual's first year wages up to $6,000 per employee or a maximum credit of $3,000. In the second year the wage limit is unchanged but the percentage falls to 25 percent. After the second year no credit is available.

To be an eligible employee one must be a recipient of SSI, a recipient of state or local general assistance or referred from a State vocational rehabilitation agency or a Veterans Administration program. There are some other categories of eligible workers as well as some additional tax related provisions that employers must adhere to.

The current TJTC is scheduled to expire December 31, 1981. The limited evidence from the site visit suggests that extension of the TJTC would help workshops place clients in competitive employment. If necessary an additional category of qualified employees could be included in new legislation to cover those workshop clients failing to meet existing criteria.

Another reason behind the difficulty of placing workshop clients is a lack of transportation for clients to a place of competitive employment. Both time requirements for a job and the lack of available public or private transportation were cited as everpresent problems. The search for acceptable placements often has to be matched to particular transit routes and schedules or, even more seriously, has to be restricted to the limited geographic area near an individual's home.

Two possibilities to ease the transportation problem arise out of the requirements established as part of nondiscrmination legislation. Under these laws public transportation systems are required to be accessible to the handicapped. Courts may find that separate van service can satisfy the requirements of the law. Although some advocates for the physically handicapped disapprove, the situation may be especially favorable for other groups, such as the retarded, who can have trouble negotiating complicated systems and routes or those who could not get from their home to public transit facilities. Workshops should be encouraged and helped to use these legal rights to widen the scope of potential employment opportunities.

Another feature of the legislation is the requirement that firms make reasonable accommodations to employ handicapped people. One possible accommodation could be restructuring the job schedule to match the individual's transportation schedule. Another possibility is for the firm to operate a special car pool arrangement that would enable the handicapped (and other employees) to avoid other transportation difficulties.

Obviously the local geography, the kinds of employers willing to hire the handicapped and the scope of any existing transportation system are all variables affecting the potential of these options. Workshops have to be encouraged and assisted to become more active in "working the system" and findings ways for people to get to work.

Extended Employment Related Options

Perhaps the most serious problem facing typical (but not all) sheltered workshops is a lack of sufficient work over the long term. There are many reasons for this problem including the nonproduction orientation of some facilities, inadequate or nonexistent capital equipment, and poor business contacts.

A policy that has worked for some facilities is the establishment of a priority for workshops in obtaining Federal and State contracts. This action is

often complemented with special loan programs to purchase the necessary capital equipment. Another arrangement, which has worked well, is the creation of a link with a large local firm willing to guarantee work and, in some cases, supply the needed capital.

Not all workshops have access to these situations. Furthermore some criticism has been voiced over State use laws in which nonprofit workshops, with little security to support a risky enterprise, have found the promises of long term contracts unfulfilled.

One road to travel, therefore, involves insuring an adequate supply of work and resources for capital while reducing the financial risks. Since there is evidence of success for some shops, we can look to them for ideas.

Certainly most workshops with National Industries for the Blind (NIB) or National Industries for the Severelly Handicapped (NISH) contracts and special State use contracts tend to do well. Expansion of these efforts would undoubtedly improve the extended employment picture.

Establishing close ties with business through industrialist participation on a workshop board of directors can lead to increased work flow. This requires a reorientation in the management of many facilities and may run counter to any service objectives currently established. With a kind of "open admissions" policy and a severely disabled clientele, a service rather than employment orientation may be justified.

Internally, success in the competition for work will require workshops to employ production oriented personnel. Competitive salaries will have to be offered if competent production people are to be employed. Alternatively, retired persons with the necessary experience and willingness to help can be a source of needed expertise. A program of staffing loans or grants specifically limited to production could be created.

Another alternative is to increase use of rehabilitation engineering knowledge to redesign the structure of jobs. The current rehabilitation engineering program has been criticized for being oriented toward medical technology while failing to devote sufficient attention to employment issues. Here is the perfect opportunity for a suitable marriage between what can be technologially achieved and what residual skills a handicapped person retains.

In trying to increase private sector use of workshops, it is again possible to devise a combined system of monetary and legal rewards. For example, although not totally consistent with full scale integration of the handicapped into the mainstream of society, some thought should be devoted to allowing firms to achieve compliance with employment legislation through use of subcontracting arrangements with sheltered workshops. In addition, as an added inducement, tax advantages could be offered and based on the number of persons employed, and their wages, through subcontracts. Since, in principle, current subminimum wage laws do not give workshops an advantage over employers of nonhandicapped labor, tax advantages could improve the financial attractiveness of using a workshop. Of course, it involves placing other unskilled workers at a disadvantage. Thus additional employment and earnings for handicapped people in extended employment will have some real economic costs. It remains a political decision as to whether these costs and their distribution are acceptable.

One additional means to improve workshop performance is to change the restrictions on the use of dollars in Title XX and vocational rehabilitation. Oftentimes workshops find their hands tied in deciding what services to offer. To receive these funds many nonvocational services must be provided as well as some vocationally related services which professional judgment indicates is unlikely to be effective. Rather than place these constraints on the use of dollars, it may be wise to consider developing a block grant program involving payments from State agencies to workshops. Specific outcome objectives would be established but the means used to achieved these ends would be open to professional discretion. If an oversight function must be retained (especially for clients lacking adequate reasoning ability) it may be necessary to use an ombudsman to review what is being done for the client.

Conclusion

It must be remembered that throughout this report we have focused on just one segment of the employment opportunities for the handicapped. The other employment technologies, along with nonemployment related policies, all have to fit together with a workshop system into a coherent disability policy. But even with such a drastic reform of public policy as the establishment of quotas (something tried in other countries (26)), it is likely that a place will remain for sheltered workshops.

Furthermore, the workshop population may include an increasing number of less productive persons. This trend is already underway, pushed along by efforts to keep severely disabled persons out of institutions. Also, as the population ages workshops may be seen as a useful part of a long term care system serving persons not needing constant supervision but in some need of a place to go and something to do.

Most significantly workshops and their handicapped employees will feel the fluctuations of the national economy. If the implementation of supply side economic policies produces the booming private sector its proponents anticipate, workshops will benefit. But if public supports are reduced and private and voluntary actions do not pick up the slack, there will be fewer employment opportunities in workshops or in the private sector. For workshops to improve and flourish as an employment technology for the handicapped there must be a successful implementation of the microeconomic policy options suggested above and the macroeconomic policies now being instituted.

REFERENCES

1. Allan, K. H. General characteristics of the disabled: An overview. In isability Survey 72, compiled by D.T. Ferron, Research Report No. 56, Washington, D.C.: U.S. Government Printing Office, SSA Publication No. 13-11812 DHEW, 1980.

2. Bille, M., Salling-Paulsen, A., and Videbech, T. Sheltered workshops and economy. In E. Stromgen, et al. (Eds) Epidemiological Research as Basis for the Organization of Extramural Psychiatry, Acta Psychiatrica Scandinavia, Supplementum V 62, 1980.

3. Berkowitz, E. D. The American disability system in historical perspective. In E. Berkowitz (Ed.) Disability Policies and Government Programs. New York: Praeger Publishers, 1979.

4. Bishop, J. Vouchers for Creating Jobs, Education and Training: VOCJET, An Employment-Oriented Strategy for Reducing Poverty, Institute for Research on Poverty, University of Wisconsin, Madison, Wisconsin, 1977.

5. Berkowitz, M., et al. Wages in sheltered employment. In Report of the Minimum Wage Study Commission, Volume 5. Washington, D.C.: U.S. Government Printing Office, June 1981, 465-515.

6. Button, W. A. Comparative analysis of rehabilitation agencies: A taxonomic approach. Ithaca, NY: New York State School of Industrial and Labor Relations, Cornell University, 1971.

7. Cho, D. W. Japanese model factory employment of handicapped people, Evaluation Review, 5(4), 1981, 427-450.

8. Clements, H. R. NISH: Innovation for serving the handicapped, American Rehabilitation, 4(1), 18-23.

9. Earnest, R. C. Network links business with rehabilitation facilities, American Rehabilitation, 5(4) 16-19.

10. Gatty, B. Business funds profit in hiring the disabled, Nation's Business, April 1981, 30-35.

11. Gittler, A. J. Fair employment and the handicapped: A legal perspective, DePaul Law Review, 27(4), 953-987.

12. Greenleigh Associates, Inc. The Role of Sheltered Workshops in the Rehabilitation of the Severely Handicapped. New York, 1975.

13. Hadley, F. P. Projects with industry: A marketing approach, American Rehabilitation, 4(4), 3-5.

14. Haveman, R. Public employment of less productive workers: Lesson for the United States from the Dutch experience. In E. Berkowitz (Ed.) Disability Policies and Government Programs. New York: Praeger Publishers, 1979.

15. Human Resources Development Institute. Handicapped placement program - Summary of program development, unpublished memorandum, May 1981.

16. Jenkins, W. M., Anderson R. M., and Odle, S. (Eds.). Stimulating government utilization of sheltered workshops. Memphis, TN: Bureau of Educational Research and Services, Memphis State University, no date.

17. Jernigan, K. Statement of National Federation of the Blind before House Labor Subcommittee on Labor Standards on Sheltered Workshop Programs under Fair Labor Standards Act, May 14, 1980.

18. Johansen, E. H. NISH: Past, present, and future, American Rehabilitation, 6(2), 27-31.

19. Kohen, A. Minimum wages and handicapped workers. In Report of the Minimum Wage Study Commission, Volume 5. Washington, D.C.: U.S. Government Printing Office, June 1981, 429-463.

20. Krents, H. Summary of project partnership/San Francisco bay area. Unpublished memorandum.

21. Krute, A., and Burdette, M. E. Prevalence of chronic disease, injury, and work disability. In Disability Survey 72, compiled by D.T. Ferron, Research Report No. 56. Washington, D.C.: U.S. Government Printing Office, SSA Publication No. 13-11812, DHEW, 1980.

22. Kwitney J., and Landauer, J. Pay of the blind often trails minimum wage at charity workrooms, Wall Street Journal, January 24, 1979, p. 1.

23. Leclair, R. R. Are workshops effective in rehabilitation? American Rehabilitation, 1(5), 24-27.

24. Levitan S., and Taggart, R. Rehabilitation, employment and the disabled. In J. Rubin (Ed.), Alternatives in rehabilitating the handicapped: A policy analysis. New York: Human Sciences Press, 1981.

25. McManus, L. A. Evaluation of disability insurance savings due to beneficiary rehabilitation, Social Security Bulletin, 44(2) 1981, 19-26.

26. Noble, J., Jr. Predicting future disability and rehabilitation policy in the United States from the Northwestern European experience. In J. Rubin (Ed.), Alternatives in rehabilitating the handicapped: A policy analysis. New York: Human Sciences Press, 1981.

27. Note, "Implying a Cause of Action Under Section 503 of the Rehabilitation Act of 1973," Michigan Law Review, 79(5), 1093-1112.

28. Ohio State University, Mershon Center CETA Study, The Implementation of the Targeted Jobs Tax Credit, Report No. 3. Columbus, OH: May 1981.

29. Pati, G. C., and Adkins, J. I. Hire the handicapped - compliance is good business, Harvard Business Review, Jan-Feb 1980, 14-22.

30. Perlman, L. Job Placement Study. Washington, D.C.: National Industries for the Severely Handicapped, 1978.

31. Program Evaluation in Vocational Rehabilitation Facilites. Tucson, AZ: Commission on Accreditation of Rehabilitation Facilities, 1977.
32. Puleo, C. and Davis, J. E. Business and rehab: New partners, American Rehabilitation, 1(4), 11-13.

33. Redkey, H. A different kind of workshop, Amicus, 4(5) & 4(6), Sept.-Dec. 1979, 270-272.

34. Report of the Comprehensive Service Needs Study, prepared by the Urban Institute for the Office of Human Development, Rehabilitation Services Administration, DHEW, Washington, DC, 1975.

35. Social security disability amendments of 1980: Legislative history and summary of provisions, Social Security Bulletin, 44(4), April 1981, 14-31.

36. U.S. Department of Education, Office of Handicapped Individuals, Summary of existing legislation relating to the handicapped, Publication No. E-80-22014. Washington, D.C.: U.S. Government Printing Office, 1980.

37. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Training and employment services for handicapped individuals in sheltered workshops, March 1981.

38. U.S. Department of Health and Human Services, Social Security Administration, Office of Research and Statistics, Work disability in the United States: A chartbook. Washington, D.C.: U.S. Government Printing Office, 1980.

39. U.S. Department of Labor, Sheltered workshop study: A nationwide report on sheltered workshops and their employment of handicapped individuals, Volume I, Workshop Survey, June 1977.

40. U.S. Department of Labor, Sheltered workshop study: A nationwide report on sheltered workshops and their employment of handicapped individuals, Statistical Appendix to Volume 1, June 1977.

41. U.S. Department of Labor Sheltered workshop study: A nationwide report on sheltered workshops and their employment of handicapped individuals, Volume II, Study of Handicapped Clients in Sheltered Workshops and Recommendations of the Secretary, March 1979.

42. U.S. Department of Labor, Employment Standards Administration, Workers certification under section 14 of the Fair Labor Standard Act, 1976.

43. Vash, C. Sheltered industrial employment. Washington, D.C.: Institute for Research Utilization, 1977.

44. Walker, M. J., and Dodenhoff, D. Projects with industry: Goodwill's track record is better than average, American Rehabilitation, 4(6), 3-8.

45. Whitehead, C. W. Sheltered workshops in the decade ahead: Work and wages, or welfare. In G.T. Bellamy, G. O'Conner and O.C. Karen (Eds.), Vocational rehabilitation of severely handicapped persons. Baltimore, MD: University Park Press, 1979.